PART 464—METAL MOLDING AND CASTING POINT SOURCE CAT-**EGORY**

GENERAL PROVISIONS

Sec.

- 464.01 Applicability.
- 464 02 General definitions.
- 464.03 Monitoring and reporting requirements.
- 464.04 Compliance date for PSES.

Subpart A—Aluminum Casting Subcategory

- 464.10 Applicability; description of the aluminum casting subcategory.
- 464.11 Specialized definitions.
- 464.12 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
- 464.13 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
- 464.14 New source performance standards.
- 464.15 Pretreatment standards for existing sources.
- 464.16 Pretreatment standards for new sources.
- 464.17 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology. [Reserved]

Subpart B—Copper Casting Subcategory

- 464.20 Applicability; description of the copper casting subcategory.
- 464.21 Specialized definitions.
- 464.22 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
- 464.23 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
- 464.24 New source performance standards.
- 464.25 Pretreatment standards for existing sources. 464.26 Pretreatment standards for new sources.
- 464.27 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology. [Reserved]

Subpart C—Ferrous Casting Subcategory

- 464.30 Applicability; description of the ferrous casting subcategory.
- 464.31 Specialized definitions.
- 464.32 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
- 464.33 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

- 464.34 New source performance standards.
- 464.35 Pretreatment standards for existing sources.
- 464.36 Pretreatment standards for new sources.
- Effluent limitations guidelines representing the 464.37 degree of effluent reduction attainable by the application of the best conventional pollutant control technology, [Reserved]

Subpart D—Zinc Casting Subcategory

- 464.40 Applicability; description of the zinc casting subcategory
- 464.41 Specialized definitions.
- 464.42 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
- 464.43 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
- 464.44 New source performance standards.
- 464.45 Pretreatment standards for existing sources.
- 464.46 Pretreatment standards for new sources.
- Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology. [Reserved]

AUTHORITY: Secs. 301, 304 (b), (c), (e), and (g), 306 (b) and (c), 307, 308, and 501 of the Clean Water Act (Federal Water Pollution Control Act Amendments of 1972, as amended by the Clean Water Act of 1977) (the "Act"); 33 U.S.C. 1311, 1314 (b), (c), (e) and (g), 1316 (b) and (c), 1317 (b) and (c), 1318, and 1361; 86 Stat. 816, Pub. L. 92-500; 91 Stat. 1567, Pub. L. 95-217.

SOURCE: 50 FR 45247, Oct. 30, 1985, unless otherwise noted.

GENERAL PROVISIONS

§464.01 Applicability.

(a) This part applies to metal molding and casting facilities that discharge or may discharge pollutants to waters of the United States or that introduce pollutants into a publicly owned treatment works.

§ 464.02 General definitions.

In addition to the definitions set forth in 40 CFR part 401, the following definitions apply to

(a) Aluminum casting. The remelting of aluminum or an aluminum alloy to form a cast intermediate or final product by pouring or forcing the molten metal into a mold, except for ingots, pigs, or other cast shapes related to nonferrous (primary and secondary) metals manufacturing (40 CFR part 421) and aluminum forming (40 CFR part 467). Processing operations following the cooling of castings not covered under aluminum forming, except for grinding scrubber operations which are covered here, are covered under the electroplating and metal finishing point source categories (40 CFR parts 413 and 433).

- (b) Copper casting. The remelting of copper or a copper alloy to form a cast intermediate or final product by pouring or forcing the molten metal into a mold, except for ingots, pigs, or other cast shapes related to nonferrous (primary and secondary) metals manufacturing (40 CFR part 421). Also excluded are casting of beryllium alloys in which beryllium is present at 0.1 or greater percent by weight and precious metals alloys in which the precious metal is present at 30 or greater percent by weight. Except for grinding scrubber operations which are covered here, processing operations following the cooling of castings are covered under the electroplating and metal finishing point source categories (40 CFR parts 413 and 433).
- (c) Ferrous casting. The remelting of ferrous metals to form a cast intermediate or finished product by pouring the molten metal into a mold. Except for grinding scrubber operations which are covered here, processing operations following the cooling of castings are covered under the electroplating and metal finishing point source categories (40 CFR parts 413 and 433).
- (d) Zinc casting. The remelting of zinc or zinc alloy to form a cast intermediate or final product by pouring or forcing the molten metal into a mold, except for ingots, pigs, or other cast shapes related to nonferrous (primary) metals manufacturing (40 CFR part 421) and nonferrous metals forming (40 CFR part 471). Processing operations following the cooling of castings not covered under nonferrous metals forming are covered under the electroplating and metal finishing point source categories (40 CFR parts 413 and 433).
- (e) POTW shall mean "publicly owned treatment works."
- (f) A non-continuous discharger is a plant which does not discharge pollutants during specific periods of time for reasons other than treatment plant upset, such periods being at least 24 hours in duration. A typical example of a non-continuous discharger is a plant where wastewaters are routinely stored for periods in excess of 24 hours to be treated on a batch basis. For non-continuous discharging direct discharging plants, NPDES permit authorities shall apply the massbased annual average effluent limitations or standards and the concentration-based maximum day and maximum for monthly average effluent limitations or standards established in the regulations. POTWs may elect to establish concentration-based standards for non-continuous discharges to POTWs. They may do so by establishing concentration-based pretreatment standards equivalent to the mass-based standards provided in §§ 464.15, 464.16, 464.25, 464.26, 464.35, 464.36, 464.45,

- and 464.46 of the regulations. Equivalent concentration standards may be established by following the procedures outlined in § 464.03(b).
- (g) *Total phenols* shall mean total phenolic compounds as measured by the procedure listed in 40 CFR part 136 (distillation followed by colorimetric—4AAP).
 - (h) Sm³ shall mean standard cubic meters.
 - (i) SCF shall means standard cubic feet.
- (j) Total toxic organics (TTO) shall mean the sum of the mass of each of the toxic organic compounds which are found at a concentration greater than 0.010 mg/l. The specialized definitions for each subpart contain a discrete list of toxic organic compounds comprising TTO for each process segment in which TTO is regulated.

§ 464.03 Monitoring and reporting requirements.

- (a) As an alternative to monitoring for TTO (total toxic organics), an indirect discharging plant may elect to monitor for Oil and Grease instead. Compliance with the Oil and Grease standard shall be considered equivalent to complying with the TTO standard. Alternate Oil and Grease standards are provided as substitutes for the TTO standards provided in §§ 464.15, 464.16, 464.25, 464.26, 464.35, 464.36, 464.45, and 464.46.
- (b) POTWs may establish concentration standards rather than mass standards, but must ensure that the concentration standards are exactly equivalent to the mass-based standards provided in §§ 464.15, 464.16, 464.25, 464.26, 464.35, 464.36, 464.45, and 464.46. Equivalent concentration standards may be determined by multiplying the mass-based standards included in the regulations by an appropriate measurement of average production, raw material usage, or air scrubber flow (kkg of metal poured, kkg of sand reclaimed, or standard cubic meters of air scrubbed) and dividing by an appropriate measure of average discharge flow to the POTW, taking into account the proper conversion factors to ensure that the units (mg/l) are correct.
- (c) The "monthly average" regulatory values shall be the basis for the monthly average effluent limitations guidelines and standards in direct discharge permits and for pretreatment standards. Compliance with the monthly average effluent limitations guidelines and standards is required regardless of the number of samples analyzed and averaged.

§ 464.04 Compliance date for PSES.

The compliance date of PSES is October 31, 1988.

Subpart A—Aluminum Casting Subcategory

§ 464.10 Applicability; description of the aluminum casting subcategory.

The provisions of this subpart are applicable to discharges to waters of the United States and to the introduction of pollutants into publicly owned treatment works resulting from aluminum casting operations as defined in § 464.02(a).

§464.11 Specialized definitions.

For the purpose of this subpart:

- (a) Total toxic organics (TTO). TTO is a regulated parameter under PSES (§ 464.15) and PSNS (§ 464.16) for the aluminum subcategory and is comprised of a discrete list of toxic organic pollutants for each process segment where it is regulated, as follows:
- (1) Casting Quench (§ 464.15(b) § 464.16(b)):
- 4. benzene
- 21. 2,4,6-trichlorophenol
- 22. Para-chloro meta-cresol
- 23. chloroform (trichloromethane)
- 34. 2,4-dimethylphenol
- 39. fluoranthene
- 44. methylene chloride (dichloromethane)
- 65, phenol
- 66. bis(2-ethylhexyl) phthalate
- 67. butyl benzyl phthalate
- 84. pyrene
- 85. tetrachloroethylene
- 87. trichloroethylene
 - (2) Die Casting (§ 464.15(c) and § 464.16(c)):
- 1. acenaphthene
- 4. benzene
- 7. chlorobenzene
- 11. 1,1,1-trichloroethane 21. 2,4,6-trichlorophenol
- 22. para-chloro meta-cresol
- 23. chloroform (trichloromethane)
- 34. 2,4-dimethylphenol
- 39. fluoranthene
- 44. methylene chloride (dichloromethane)
- 55. naphthalene
- 65. phenol
- 66. bis(2-ethylhexyl) phthalate
- 67. butyl benzyl phthalate
- 68. di-n-butyl phthalate
- 70. diethyl phthalate
- 72. benzo (a)anthracene (1,2-benzanthracene)
- 73. benzo (a)pyrene (3,4-benzopyrene)
- 76. chrysene
- 78. anthracene
- 80. fluorene
- 81. phenanthrene 84. pyrene
- 85. tetrachloroethylene
- 86. toluene

- (3) Dust Collection Scrubber (§ 464.15(d) and § 464.16(d)):
- 1. acenaphthene
- 21. 2,4,6-trichlorophenol
- 23. chloroform (trichloromethane)
- 34. 2,4-dimethylphenol
- 39. fluoranthene
- 44. methylene chloride (dichloromethane)
- 65. phenol
- 66. bis (2-ethylhexyl) phthalate
- 68. di-n-butyl phthalate
- 70. diethyl phthalate
- 73. benzo (a)pyrene (3,4-benzopyrene)
- 84. pyrene
- (4) Investment Casting (§ 464.15(f) § 464.16(f)):
- 11. 1,1,1-trichloroethane
- 23. chloroform (trichloromethane)
- 44. methylene chloride (dichloromethane) 66. bis (2-ethylhexyl) phthalate
- 84. pyrene
- 85. tetrachloroethylene
- 87. trichloroethylene
- (5) Melting Furnace Scrubber (§ 464.15(g) and § 464.16(g)):
- 1. acenaphthene
- 21. 2.4.6-trichlorophenol
- 23. chloroform (trichloromethane)
- 34. 2,4-dimethylphenol
- 39. fluoranthene
- 44. methylene chloride (dichloromethane)
- 65. phenol
- 66. bis (2-ethylhexyl) phthalate
- 68. di-n-butyl phthalate
- 70. diethyl phthalate
- 73. benzo (a)pyrene (3,4-benzopyrene)
- 84. pyrene
 - (6) Mold Cooling (§ 464.15(h) and § 464.16(h)):
- 4. benzene
- 21. 2,4,6-trichlorophenol
- 22. para-chloro meta-cresol
- 23. chloroform (trichloromethane)
- 34. 2.4-dimethylphenol
- 39. fluoranthene
- 44. methylene chloride
- 65. phenol
- 66. bis(2-ethylhexyl) phthalate
- 67. butyl benzyl phthalate
- 84. pyrene
- 85. tetrachloroethylene
- 87. trichloroethylene

§ 464.12 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction

attainable by the application of the best practicable control technology currently available, except that non-continuous dischargers shall not be subject to the maximum day and maximum for monthly average mass (kg/1,000 kkg or lb/million lb of metal poured; kg/62.3 million Sm3 or lb/billion SCF of air scrubbed) effluent limitations for copper, lead, zinc, total phenols, oil and grease, and TSS. For non-continuous dischargers, annual average mass limitations and maximum day and maximum for monthly average concentration (mg/l) limitations shall apply. Concentration limitation and annual average mass limitation shall only apply to noncontinuous dischargers.

(a) Casting Cleaning Operations.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day Maximum monthly avage		
	kg/1,000 kkg (pounds pe million pounds) of meta poured		
Copper (T)	0.0771 0.0791 0.114 3.0 3.80	0.0421 0.039 0.0431 1.0 1.50	

¹ Within the range of 7.0 to 10.00 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age ¹
Copper (T) Lead (T) Zinc (T)	(mg/l) ² 0.77 0.79 1.14	(mg/l) ² 0.42 0.39 0.43	0.017 0.022 0.027
Oil & grease	30	10	0.501
TSS	38	15	1.0
pH	(3)	(3)	(3)

¹kg/1,000 kkg (pounds per million pounds) of metal poured.
²These concentrations must be multiplied by the ratio of (12/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(b) Casting Quench Operations.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (pounds million pounds) of m poured	
Copper (T) Lead (T) Zinc (T) Oil & grease TSS pH	0.0093 0.0096 0.0138 0.363 0.46 (1)	0.0051 0.0047 0.0052 0.121 0.182 (¹)

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual av- erage ¹
Copper (T)	(mg/l) ² 0.77 0.79 1.14 30 38 (³)	(mg/l) ² 0.42 0.39 0.43 10 15 (³)	0.0021 0.0027 0.0033 0.0605 0.121

¹ kg/1,000 kkg (pounds per million pounds) of metal poured.
2 These concentrations must be multiplied by the ratio of (1.45/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.
3 Within the range of 7.0 to 10.0 at all times.

(c) Die Casting Operations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	
	kg/1,000 kkg (pounds pe million pounds) of meta poured		
Copper (T)	. 0.0068 0.00 0.0098 0.00 0.0074 0.00 0.259 0.08 0.33 0.13		

¹ With the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual av- erage ¹
Copper (T)	(mg/l) (2) 0.77 0.79 1.14 0.86 30	(mg/l) (²) 0.42 0.39 0.43 0.3	0.0015 0.0019 0.0023 0.0017 0.0432
TSSpH	38 (³)	15 (³)	0.0864 (³)

 $^{^1\,\}text{kg/1,000}$ kkg (pounds per million pounds) of metal poured.

³Within the range of 7.0 to 10.0 at all times.

(d) Dust Collection Scrubber Operations.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day Maximum monthly av		
	kg/62.3 million Sm³ (pounds per billion SCF) of air scrubbed		
Copper (T)	. 0.237 0. 0.343 0. 0.258 0. 9.01 3.		

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maxi- mum for monthly average	Annual av- erage ¹
	(mg/l) ²	mg/l) ²	
Copper (T)	0.77	0.42	0.0511
Lead (T)	0.79	0.39	0.0661
Zinc (T)	1.14	0.43	0.0811
Total Phenols	0.86	0.3	0.0601
Oil & Grease	30	10	1.5
TSS	38	15	3.0
pH	(3)	(3)	(3)

 $^{^{1}\}mbox{kg/62.3}$ million \mbox{SM}^{3} (pounds per billion SCF) of air scrubbed.

(e) Grinding Scrubber Operations. No discharge of process wastewater pollutants to navigable waters.

(f) Investment Casting.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day Maximum for monthly av age		
	kg/1,000 kkg (pounds per million pounds) of metal poured		
Copper (T)	8.48 4.63		
Lead (T)	8.7	4.3	
Zinc (T)			
Oil and grease	330	110	
TSS	419 165		
pH	(1) (1)		

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual average ¹
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.77	0.42	1.87
Lead (T)	0.79	0.39	2.42
Zinc (T)	1.14	0.43	2.97
Oil and grease	30	10	55.1
TSS	38	15	110
pH	(3)	(3)	(3)

¹kg/1,000 kkg (pounds per million pounds) of metal poured.
²These concentrations must be multiplied by the ratio of (1,320/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.
³Within the range of 7.0 to 10.0 at all times.

(g) Melting Furnace Scrubber Operations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum fo monthly aver age	
	kg/62.3 million Sm³ (pou per billion SCF) of scrubbed		
Copper (T) Lead (T) Zinc (T) Total phenols Oil and grease TSS pH	3.01 3.09 4.45 3.36 117 148 (1)	1.64 1.52 1.68 1.17 39.1 58.6 (¹)	

¹ Within the range of 7.0 to 10.0 at all times.

 $^{^2}$ These concentrations must be multiplied by the ratio of (1.04/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant. 3 Within the range of 7.0 to 10.0 at all times,

c2These concentrations must be multiplied by the ratio of (0.036/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant.

³ Within the range of 7.0 to 10.0 at all times.

§ 464.13

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age 1
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.77	0.42	0.664
Lead (T)	0.79	0.39	0.859
Zinc (T)	1.14	0.43	1.05
Total phenols	0.86	0.3	0.781
Oil and grease	30	10	19.5
TSS	38	15	39.1
pH	(2)	(3)	(3)

(h) Mold Cooling Operations.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day Maximum for monthly av age		
	kg/1,000 kkg (pounds per million pounds) of metal poured		
Copper (T)	0.297	0.162	
Lead (T)			
Zinc (T)			
Oil and grease	. 11.6 3.86		
TSS	14.7	5.79	
pH	(1)	(1)	

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual av- erage ¹
	(mg/l) 1	(mg/) ¹	
Copper (T)	0.77	0.42	0.0656
Lead (T)	0.79	0.39	0.0849
Zinc (T)	1.14	0.43	0.104
Oil and grease	30	10	1.93
TSS	38	15	3.86
pH	(3)	(3)	(3)

¹kg/1,000 kkg (pounds per million pounds) of metal ²These concentrations must be multiplied by the ratio of (46.3/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a spe-dre.

[50 FR 45247, Oct. 30, 1985; 51 FR 21760, June 16,

§ 464.13 Effluent limitations guidelines representing the degree of effluent reduction attainable by the applica-tion of the best available tech-nology economically achievable.

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable, except that non-continuous dischargers shall not be subject to

the maximum day and maximum for monthly average mass (kg/1,000 kkg or lb/million lb of metal poured; kg/62.3 million Sm3 or lb/billion SCF of air scrubbed) effluent limitations for copper, lead, zinc, and total phenols. For non-continuous dischargers, annual average mass limitations and maximum day and maximum for monthly average concentration (mg/l) limitations shall apply. Concentration limitations and annual average mass limitations shall only apply to non-continuous dis-

(a) Casting Cleaning Operations.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day Maximum for monthly average			
	kg/1,000 kkg (pounds per million pounds) of metal poured			
Copper (T)	0.0771	0.0421		
Lead (T)	0.0791 0.039 0.114 0.049			

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age 1
Copper (T) Lead (T)	(mg/l) ² 0.77 0.79	(mg/l) ² 0.42 0.39	0.017 0.022
Zinc (T)	1.14	0.33	0.022

¹ kg/1,000 kkg (pounds per million pounds) of metal poured.
These concentrations must be multiplied by the ratio of (12/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(b) Casting Quench Operations.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day Maximum for monthly ave age		
	kg/1,000 kkg (pounds per million pounds) of metal poured		
Copper (T) Lead (T) Zinc (T)	0.0093 0.0096 0.0138	0.0051 0.0047 0.0052	

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age 1
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.77	0.42	0.0021
Lead (T)	0.79	0.39	0.0027
Zinc (T)	1.14	0.43	0.0033

¹ kg/1,000 kkg (pounds per million pounds) of metal poured.

2 These concentrations must be multiplied by the ratio of (1.45/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(c) Die Casting Operations.

¹kg/62.3 million Sm³ (pounds per billion SCF) of air scrubbed.
²These concentrations must be multiplied by the ratio of (0.468/x) where x is the acutal normalized process wastewater flow (in gallons per 1,000 SCF of air scrubbed) for a constitie plant. a specific plant.

³ Within the range of 7.0 to 10.0 at all times.

cific plant.

³Within the range of 7.0 to 10.0 at all times.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day Maximum for monthly ave age		
	kg/1,000 kkg (pounds per million pounds) of metal poured		
Copper (T)	0.0066 0.0068 0.0098 0.0074	0.0036 0.0034 0.0037 0.0026	

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age ¹
Copper (T) Lead (T) Zinc (T) Total Phenols	(mg/l) ² 0.77 0.79 1.14 0.86	(mg/l) ² 0.42 0.39 0.43 0.3	0.0015 0.0019 0.0023 0.0017

¹ kg/1,000 kkg (pounds per million pounds) of metal poured.

2 These concentrations must be multiplied by the ratio of (1.04/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(d) Dust Collection Scrubber Operations.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day Maximum for monthly average	
	kg/62.3 million Sm³ (pounds per billion SCF) of air scrubbed	
Copper (T)	0.237 0.7 0.343 0.7	

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age 1
Copper (T)	(mg/l) ² 0.77 0.79 1.14 0.86	(mg/l) ² 0.42 0.39 0.43 0.3	0.0511 0.0661 0.0811 0.0601

 $^{^1\}mbox{kg/62.3}$ million Sm 3 (lb per billion SCF) of air scrubbed. 2 These concentrations must be multiplied by the ratio of (0.036/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant.

- (e) *Grinding Scrubber Operations*. No discharge of process wastewater pollutants to navigable waters.
 - (f) Investment Casting.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day Maximum for monthly av age		
	kg/1,000 kkg (pounds pe million pounds) of meta poured		
Copper (T) Lead (T) Zinc (T)	8.48 8.7 12.6	4.63 4.3 4.74	

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age 1
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.77	0.42	1.87
Lead (T)	0.79	0.39	2.42
Zinc (T)	1.14	0.43	2.97

¹kg/1,000 kkg (pounds per million pounds) of metal poured.
²These concentrations must be multiplied by the ratio of (1,320/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(g) Melting Furnace Scrubber Operations.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day Maximum monthly average	
	kg/62.3 million Sm³ (pour per billion SCF) of scrubbed	
Copper (T)	3.01	1.64
Lead (T)	3.09	1.52
Zinc (T)	4.45	1.68
Total phenols	3.36	1.17

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age 1
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.77	0.42	0.664
Lead (T)	0.79	0.39	0.859
Zinc (T)	1.14	0.43	1.05
Total phenols	0.86	0.3	0.781

 $^{^{1}\}mbox{kg/62.3}$ million $\mbox{Sm}\,^{3}$ (pounds per billion SCF) of air scrubbed

(h) Mold Cooling Operations.

² These concentrations must be multiplied by the ratio of (0.468/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day Maximum for monthly average	
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.297 0.305 0.44	0.162 0.151 0.166

	Maximum for any 1 day	Maximum for monthly average	Annual av- erage ¹
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.77	0.42	0.0656
Lead (T)	0.79	0.39	0.0849
Zinc (T)	1.14	0.43	0.104

¹ kg/1,000 kkg (pounds per million pounds) of metal poured.
2 These concentrations must be multiplied by the ratio of (46.3/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

[50 FR 45247, Oct. 30, 1985; 51 FR 21760, June 16, 1986]

§464.14 New source performance standards.

Any new source subject to this subpart must achieve the following new source performance standards (NSPS), except that non-continuous dischargers shall not be subject to the maximum day and maximum for monthly average mass (kg/1,000 kkg or lb/million lb of metal poured; kg/62.3 million Sm3 or lb/billion SCF of air scrubbed) effluent standards for copper, lead, zinc, total phenols, oil and grease, and TSS. For non-continuous dischargers, annual average mass standards and maximum day and maximum for monthly average concentration (mg/l) standards shall apply. Concentration standards and annual average mass standards shall only apply to non-continuous dischargers.

(a) Casting Cleaning Operations.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (pounds per million pounds) of meta poured	
Copper (T)	0.0771	0.0421
Lead (T)	0.0791	0.039
Zinc (T)	0.114	0.0431
Oil and grease	3.0	1.0
TSS	3.8	1.5
pH	(1)	(1)

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum	Maximum	Annual
	for any 1	for monthly	aver-
	day	average	age 1
Copper (T)	(mg/l) ² 0.77 0.79 1.14 30 38 (3)	(mg/l) ² 0.42 0.39 0.43 10 15 (3)	0.017 0.022 0.027 0.501 1.0

¹kg/1,000 kkg (pounds per million pounds) of metal poured.
²These concentrations must be multiplied by the ratio of (12/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.
³Within the range of 7.0 to 10.0 at all times.

(b) Casting Quench Operations.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (pounds p million pounds) of me poured	
Copper (T) Lead (T) Zinc (T) Oil and grease TSS pH	0.0093 0.0096 0.0138 0.363 0.46 (1)	0.0051 0.0047 0.0052 0.121 0.182 (¹)

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum	Maximum	Annual
	for any 1	for monthly	aver-
	day	average	age ¹
Copper (T)	(mg/l) ² 0.77 0.79 1.14 30 38 (³)	(mg/l) ² 0.42 0.39 0.43 10 15 (3)	0.0021 0.0027 0.0033 0.0605 0.121 (3)

¹ kg/1,000 kkg (pounds per million pounds) of metal poured.
2 These concentrations must be multiplied by the ratio of (1.45/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.
3 Within the range of 7.0 to 10.0 at all times.

(c) Die Casting Operations.

NSPS

Pollutant or pollutant property	y Maximum for one 1 day Maximum monthly age	
	kg/1,000 kkg (pounds million pounds) of me poured	
Copper (T)	0.0066 0.0068 0.0098 0.0074 0.259 0.33	0.0036 0.0034 0.0037 0.0026 0.0864 0.13
pH	(1)	(1)

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age 1
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.77	0.42	0.0015
Lead (T)	0.79	0.39	0.0019
Zinc (T)	1.14	0.43	0.0023
Total phenols	0.86	0.3	0.0017
Oil and grease	30	10	0.0432
TSS and	38	15	0.0864
pH	(3)	(3)	(3)

¹kg/1,000 kkg (pounds per million pounds) of metal poured.
²These concentrations must be multiplied by the ratio of (1.04/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured)
³Within the range of 7.0 to 10.0 at all times.

$(d) \ \textit{Dust Collection Scrubber Operations}.$

NSPS

Pollutant of pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/62.3 million per billion scrubbed	Sm³ (pounds SCF) of air
Cooper (T)	0.231	0.126
Lead (T)	0.237	0.117
Zinc (T)	0.343	0.129
Total phenols	0.258	0.09
Oil and grease	9.01	3.0
TSS	11.4	4.51
pH	(1)	(1)

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	maximum for monthly average	Annual aver- age 1
	(mg/l) ²	(mg/l) ²	
Cooper (T)	0.77	0.42	0.0511
Lead (T)	0.79	0.39	0.0661
Zinc (T)	1.14	0.43	0.0811
Total phenols	0.86	0.3	0.0601
Oil and grease	30	10	1.5
TSS	38	15	3.0
pH	(3)	(3)	(3)

(f) Investment Casting.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (p lion pounds) of	
Copper (T) Lead (T)	8.48 8.7	4.63 4.3
Zinc (T)	12.6	4.74
Oil and grease	330 419	110
TSS	419	165
pH	(1)	(1)

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual average ¹
Copper (T) Lead (T) Zinc (T) Oil and grease TSS pH	(mg/l) ² 0.77 0.79 1.14 30 38 (³)	(mg/l) ² 0.42 0.39 0.43 10 15 (³)	1.87 2.42 2.97 55.1 110

¹kg/1,000 kkg (pounds per million pounds) of metal poured ²These concentrations must be multiplied by the ratio of (1,320/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

³Within the range of 7.0 to 10.0 at all times.

(g) Melting Furnace Scrubber Operations.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/62.3 million per billion scrubbed	Sm³ (pounds SCF) of air
Copper (T)	3.01 3.09 4.45 3.36 117 148 (¹)	1.64 1.52 1.68 1.17 39.1 58.6

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual average ¹
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.77	0.42	0.664
Lead (T)	0.79	0.39	0.859
Zinc (T)	1.14	0.43	1.05
Total phenols	0.86	0.3	0.781
Oil and grease	30	10	19.5
TSS	38	15	39.1
pH	(3)	(3)	(3)

¹ kg/62.3 million Sm³ (pounds per billion SCF) of air scrubbed.

2 These concentrations must be multiplied by the ratio of (0.036/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant.

3 Within the range of 7.0 to 10.0 at all times.

⁽e) Grinding Scrubber Operations. No discharge of process wastewater pollutants to navigable wa-

¹ kg/62.3 million Sm³ (pounds per billion SCF) of air scrubbed.

2 These concentrations must be multiplied by the ratio of (0.468/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant.

3 Within the range of 7.0 to 10.0 at all times.

(h) Mold Cooling Operations.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly aver- age
	kg/1,000 kkg (p lion pounds) of	
Copper (T)	0.297	0.162
Lead (T)	0.305	0.151
Zinc (T)	0.44	0.166
Oil and grease	11.6	3.86
TSS	14.7	5.79
pH	(1)	(1)

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual average ¹
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.77	0.42	0.0656
Lead (T)	0.79	0.39	0.0849
Zinc (T)	1.14	0.43	0.104
Oil and grease	30	10	1.93
TSS	38	15	3.86
pH	(3)	(3)	(3)

¹ kg/1,000 kkg (pounds per million pounds of metal poured.
² These concentrations must be multiplied by the ratio of (46.3/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.
³ Within the range of 7.0 to 10.0 at all times.

[50 FR 45247, Oct. 30, 1985; 51 FR 21760, June 16, 1986]

§464.15 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR part 403 and achieve the following pretreatment standards for existing sources.

(a) Casting Cleaning Operations.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T) Lead (T) Zinc (T)	0.0771 0.0791 0.114	0.0421 0.039 0.0431

(b) Casting Quench Operation.

PSES

	age
	(pounds per ds) of metal
0.0093 0.0096 0.0138	0.0051 0.0047 0.0052
0.029	0.0095 0.121
	0.0093 0.0096 0.0138

(c) Die Casting Operations.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg million poun poured	(pounds per ids) of metal
Copper (T) Lead (T)	0.0066 0.0068	0.0036 0.0034
Zinc (T)	0.008	0.0034
Total phenols	0.0074	0.0037
TTO	0.0308	0.01
Oil and grease (for alternate		
monitoring)	0.259	0.0864

(d) Dust Collection Scrubber Operations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	
	kg/62.3 million per billion scrubbed	Sm³ (pounds SCF) of air	
Copper (T) Lead (T) Zinc (T) Total phenols TTO	0.231 0.237 0.343 0.258 0.613	0.126 0.117 0.129 0.09 0.2	
Oil and grease (for alter- nate monitoring)	9.01	3.00	

- (e) Grinding Scrubber Operations. No discharge of process wastewater pollutants to a POTW.
 - (f) Investment Casting.

PSES

Pollutant or pollutant property	Maximum for any 1 day Maximum fromonthly average	
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	8.48 8.7 12.6 18.1	4.63 4.3 4.74 5.91
Oil and grease (for alternate monitoring	330	110

(g) Melting Furnace Scrubber Operations.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/62.3 million per billion scrubbed	Sm³ (pounds SCF) of air
Copper (T)	3.01 3.09 4.45 3.36 7.97	1.64 1.52 1.68 1.17 2.6
monitoring)	117	39.1

(h) Mold Cooling Operations.

PSES

Pollutant or pollutant property	Maximum for any 1 day Maximum monthly av age	
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.297 0.305 0.44 0.935	0.162 0.151 0.166 0.304 3.86

 $[50\ FR\ 45247,\ Oct.\ 30,\ 1985;\ 51\ FR\ 21760,\ June\ 16,\ 1986]$

§ 464.16 Pretreatment standards for new sources.

Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduces pollutants into publicly owned treatment works must comply with 40 CFR part 403 and achieve the following pretreatment standards for new sources

(a) Casting Cleaning Operations.

PSNS

Pollutant or pollutant property	Maximum for any 1 day Maximum monthly avage		
	kg/1,000 kkg (pounds per million pounds) of meta poured		
Copper (T) Lead (T) Zinc (T)	0.0771 0.0791 0.114	0.0421 0.039 0.0431	

(b) Casting Quench Operations.

PSNS

Pollutant or pollutant property	Maximum for any 1 day Maximum fromonthly average		
	kg/1,000 kkg (pounds per million pounds) of metal poured		
Copper (T)	0.0093 0.0096 0.0138 0.029	0.0051 0.0047 0.0052 0.0095	
Oil and grease (for alternate monitoring)	0.363	0.121	

(c) Die Casting Operations.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	
	kg/1,000 kkg (pounds pe million pounds) of meta poured		
Copper (T)	0.0066 0.0068 0.0098 0.0074 0.0308	0.0036 0.0034 0.0037 0.0026 0.01	
monitoring)	0.259	0.0864	

(d) Dust Collection Scrubber Operations.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	
	kg/62.3 million per billion scrubbed	Sm³ (pounds SCF) of air	
Copper (T)	0.231 0.237 0.343 0.258 0.613	0.126 0.117 0.129 0.09 0.2	
nate monitoring)	9.01	3.0	

- (e) Grinding Scrubber Operations. No discharge of process wastewater pollutants to a POTW.
 - (f) Investment Casting.

PSNS

Pollutant or pollutant property	Maximum for any 1 day Maximum monthly a age	
	kg/1,000 kkg (pounds pe million pounds) of meta poured	
Copper (T)	8.48 8.7 12.6 18.1	4.63 4.3 4.74 5.91
Oil and grease (for alternate monitoring)		

(g) Melting Furnace Scrubber Operations.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	
	kg/62.3 million Sm³ (pounds per billion SCF) of ai scrubbed		
Copper (T)	3.01 3.09 4.45 3.36 7.97	1.64 1.52 1.68 1.17 2.6	
monitoring)	117	39.1	

(h) Mold Cooling Operations.

PSNS

Pollutant or pollutant property	Maximum for any 1 day Maximum monthly age		
	kg/1,000 kkg (pounds per mil lion pounds) of metal poured		
Copper (T) Lead (T) Zinc (T) TTO Oil and grease (for alter-	0.297 0.305 0.44 0.935	0.162 0.151 0.166 0.304	
nate monitoring)	11.6	3.86	

§464.17 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology. [Reserved]

Subpart B—Copper Casting Subcategory

§ 464.20 Applicability; description the copper casting subcategory.

The provisions of this subpart are applicable to discharges to waters of the United States and to the introduction of pollutants into publicly owned treatment works resulting from copper casting operations as defined in § 464.02(b).

§ 464.21 Specialized definitions.

For the purpose of this subpart:

- (a) Total Toxic Organics (TTO). TTO is a regulated parameter under PSES (§ 464.25) and PSNS (§ 464.26) for the copper subcategory and is comprised of a discrete list of toxic organic pollutants for each process segment where it is regulated, as follows:
- Casting (§ 464.25(a) (1) Quench § 464.26(a)):
- 23. chloroform (trichloromethane)
- 64. pentachlorophenol 66. bis(2-ethylhexyl)phthalate
- 71. dimethyl phthalate
- (2) Dust Collection Scrubbers (§ 464.25(c) and 464.26(c)):
- 1. acenaphthene
- 22. para-chloro meta-cresol
- 23. chloroform (trichloromethane)
- 34. 2,4-dimethylphenol
- 55. naphthalene 58. 4-nitrophenol
- 64. pentachlorophenol
- 65. phenol
- 66. bis(2-ethylhexyl)phthalate
- 67. butyl benzyl phthalate
- 68. di-n-butyl phthalate
- 70. diethyl phthalate 71. dimethyl phthalate
- 72. benzo(a)anthracene (1,2-benzanthracene)
- 74. 3,4-benzofluoranthene
- 75. benzo(k) fluoranthene
- 76. chrysene
- 77. acenaphthylene
- 78. anthracene
- 81. phenanthrene
- 84. pyrene
- (3) Investment Casting (§ 464.25(e) and § 464.26(e)):
- 1. acenaphthene
- 22. para-chloro meta-cresol
- 23. chloroform (trichloromethane)
- 34. 2,4-dimethylphenol

- 55. naphthalene
- 58. 4-nitrophenol
- 64. pentachlorophenol
- 65, phenol
- 66. bis (2-ethylhexyl)phthalate
- 67. butyl benzyl phthalate
- 68. di-n-butyl phthalate
- 70. diethyl phthalate
- 71. dimethyl phthalate
- 72. benzo(a)anthracene (1,2-benzanthracene)
- 74. 3,4-benzofluoranthene
- 75. benzo(k) fluoranthene
- 76. chrysene
- 77. acenaphthylene
- 78. anthracene
- 81. Phenanthrene
- 84. pyrene
- (4) Melting Furnace Scrubber (§ 464.25(f) and § 464.26(f)):
- 1. acenaphthene
- 22. para-chloro meta-cresol
- 23. chloroform (trichloromethane)
- 34. 2,4-dimethylphenol
- 55. naphthalene
- 58. 4-nitrophenol
- 64. pentachlorophenol
- 65. phenol
- 66. bis (2-ethylhexyl) phthalate
- 67. butyl benzyl phthalate
- 68. di-n-butyl phthalate
- 70. diethyl phthalate
- 71. dimethyl phthalate 72. benzo(a)anthracene (1,2-benzanthracene)
- 74. 3,4-benzoflouranthene
- 75. benzo(k) flouranthene
- 76. chrysene
- 77. acenaphthylene
- 78. anthracene
- 81. phenanthrene
- - (5) Mold Cooling (§ 464.25(g) and § 464.26(g)):
- 23. chloroform (trichloromethane)
- 64. pentachlorophenol
- 66. bis(2-ethylhexyl)phthalate
- 71. dimethyl phthalate

§ 464.22 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available, except that non-continuous dischargers shall not be subject to the maximum day and maximum for monthly average mass (kg/1,000 kkg or lb/million lb of metal poured; kg/62.3 million Sm3 or lb/billion SCF of air scrubbed) effluent limitations for copper, lead,

zinc, total phenols, oil and grease, and TSS. For non-continuous dischargers, annual average mass limitations and maximum day and maximum for monthly average concentration (mg/l) limitations shall apply. Concentration limitations and annual average mass limitations shall only apply to noncontinuous dischargers.

(a) Casting Quench Operations.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (pounds pe million pounds) of meta poured	
Copper (T)	0.0307	0.0168
Lead (T)	0.0315	0.0156
Zinc (T)	0.0455	0.0171
Oil and grease	1.2	0.399
TSS	1.52	0.598
pH	(¹)	(1)

1 Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual average 1
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.77	0.42	0.0068
Lead (T)	0.79	0.39	0.0088
Zinc (T)	1.14	0.43	0.0108
Oil and grease	30	10	0.199
TSS	38	15	0.399
pH	(3)	(3)	(3)

¹kg/1000 kkg (pounds per million pounds) of metal poured ²These concentrations must be multiplied by the ratio of (4.8/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a spe-cific plant.
³ Within the range of 7.0 to 10.0 at all times.

(b) Direct Chill Casting Operations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T) Lead (T) Zinc (T) Oil and grease TSS pH	. 0.952 0.4 . 1.37 0.5 . 36.2 12.1 . 45.8 18.1	

¹ Within the range of 7.0 to 10.0 at all times.

Maximum for any 1 day	Maximum for monthly average	Annual average 1
(mg/l) ²	(mg/l) ²	
0.77	0.42	0.205
0.79	0.39	0.265
1.14	0.43	0.326
30	10	6.03
38	15	12.1
(3)	(3)	(3)
	(mg/l) ² 0.77 0.79 1.14 30 38	for any 1 for monthly average (mg/l) ² (mg/l) ² 0.77 0.42 0.79 0.39 1.14 0.43 30 10 38 15

¹ kg/1000 kkg (pounds per million pounds) of metal poured.
 ² These concentrations must be multiplied by the ratio of (145/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.
 ³ Within the range of 7.0 to 10.0 at all times.

(c) Dust Collection Scrubber Operations.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly aver- age	
	kg/62.3 million per billion scrubbed	Sm³ (pounds SCF) of air	
Copper (T)	0.553	0.301	
Lead (T)	0.567	0.28	
Zinc (T)	0.818	0.309	
Total phenols	0.617	0.215	
Oil and grease	21.5	7.18	
TSS	27.3	10.8	
ph	(¹)	(¹)	

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual average 1
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.77	0.42	0.122
Lead (T)	0.79	0.39	0.158
Zinc (T)	1.14	0.43	0.194
Total phenols	0.86	0.3	0.144
Oil and grease	30	10	3.59
TSS	38	15	7.18
pH	(3)	(3)	(3)

a specific plant.

³ Within the range of 7.0 to 10.0 at all times.

(d) Grinding Scrubber Operations. No discharge of process wastewater pollutants to navigable waters.

(e) Investment Casting.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day Maximum monthly av age		
	kg/1,000 kkg (pounds per mil- lion pounds) of metal poured		
Copper (T)	8.7 4 12.6 4 330 110 419 165		

¹ Within the range of 7.0 to 10.0 at all times.

Maximum for any 1 day	Maximum for monthly average	Annual average 1
(mg/l) ²	(mg/l) ²	
0.77	0.42	1.87
0.79	0.39	2.42
1.14	0.43	2.97
30	10	55.1
38	15	110
(3)	(3)	(3)
	for any 1 day (mg/l) ² 0.77 0.79 1.14 30 38	for any 1 for monthly average (mg/l) ² (mg/l) ² 0.77 0.42 0.79 0.39 1.14 0.43 30 10 38 15

1 kg/1,000 kkg (pounds per million pounds) of metal poured.
2 These concentrations must be multiplied by the ratio of (1,320/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.
3 Within the range of 7.0 to 10.0 at all times.

(f) Melting Furnace Scrubber Operations.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	
	kg/62.3 million per billion scrubbed	Sm³ (pounds SCF) of air	
Copper (T)	1.81 1.86 2.68 2.02 70.6 89.4 (¹)	0.988 0.918 1.01 0.706 23.5 35.3	

¹ Within the range of 7.0 to 10.0 at all times.

Maximum for any 1 day	Maximum for monthly average	Annual average ¹
(mg/l) ²	(mg/l) ²	
0.77	0.42	0.4
0.79	0.39	0.518
1.14	0.43	0.635
0.86	0.3	0.467
30	10	11.8
38	15	23.5
(3)	(3)	(3)
	for any 1 day (mg/l) 2 0.77 0.79 1.14 0.86 30 38	for any 1 for monthly average (mg/l) ² (mg/l) ² 0.77 0.42 0.79 0.39 1.14 0.43 0.86 0.3 30 10 38 15

¹kg/62.3 million Sm³ (pound per billion SCF) of air scrubbed.
²These concentrations must be multiplied by the ratio of (0.282/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant.
³Within the range of 7.0 to 10.0 at all times.

¹kg/62.3 million Sm³ (pounds per billion SCF) of air scrubbed.
² These concentrations must be multiplied by the ratio of (0.086/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant.

(g) Mold Cooling Operations.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly aver- age	
	kg/1,000 kkg (pounds per mi lion pounds) of metal poured		
o —	0.000	0.044	
Copper (T)	0.392	0.214	
Lead (T)	0.402	0.199	
Zinc (T)	0.58 0.		
Oil and grease	15.3	5.09	
TSS	19.3	7.63	
pH	(1)	(1)	

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual average ¹
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.77	0.42	0.0865
Lead (T)	0.79	0.39	0.112
Zinc (T)	1.14	0.43	0.137
Oil and grease	30	10	2.54
TSS	38	15	5.09
pH	(3)	(3)	(3)

¹ kg/1,000 kkg (pounds per million pounds) of metal poured.
² These concentrations must be multiplied by the ratio of (61/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.
³ Within the range of 7.0 to 10.0 at all times.

[50 FR 45247, Oct. 30, 1985; 51 FR 21760, June 16, 1986]

§ 464.23 Effluent limitations guidelines representing the degree of effluent reduction attainable by the applica-tion of the best available tech-nology economically achievable.

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable, except that non-continuous dischargers shall not be subject to the maximum day and maximum for monthly average mass (kg/1,000 kkg or lb/million lb of metal poured; kg/62.3 million Sm3 or lb/billion SCF of air scrubbed) effluent limitations for copper, lead, zinc, and total phenols. For non-continuous discharges, annual average mass limitations and maximum day and maximum for monthly average concentration (mg/l) limitations shall apply. Concentration limitations and annual average mass

limitations shall only apply to non-continuous dischargers.

(a) Casting Quench Operations.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (pounds p million pounds) of met poured	
Copper (T)	0.0307	.0168
Lead (T)	0.0211	.0104
Zinc (T)	0.0303	.0116

	Maximum for any 1 day	Maximum for monthly average	Annual av- erage ¹
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.77	0.42	0.0068
Lead (T)	0.53	0.26	0.006
Zinc (T)	0.76	0.29	0.0072

¹ kg/1,000 kkg (pounds per million pounds) of metal poured.
2 These concentrations must be multiplied by the ratio of (4.8/x) where x is the actual normalized process waste-water flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(b) Direct Chill Casting Operations.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day Maximum monthly av	
	kg/1,000 kkg (pounds pe million pounds) of meta poured	
Copper (T) Lead (T) Zinc (T)	0.928 0.639 0.916	0.506 0.314 0.35

	Maximum for any 1 day	Maximum for monthly average	Annual average ¹
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.77	0.42	0.205
Lead (T)	0.53	0.26	0.181
Zinc (T)	0.76	0.29	0.217

¹ kg/1,000 kkg (pounds per million pounds) of metal poured.
2 These concentrations must be multiplied by the ratio of (145/x) where x is the actual normalized process waste-water flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(c) Dust Collection Scrubber Operations.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	
	kg/62.3 million Sm³ (pound per billion SCF) of a scrubbed		
Copper (T) Lead (T) Zinc (T) Total phenols	0.553 0.38 0.545 0.617	0.301 0.187 0.208 0.215	

	Maximum for any 1 day	Maximum for monthly average	Annual average ¹
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.77	0.42	0.122
Lead (T)	0.53	0.26	0.108
Zinc (T)	0.76	0.29	0.129
Total phenols	0.86	0.3	0.144

- (d) Grinding Scrubber Operations. No discharge of process wastewater pollutants to navigable waters.
 - (e) Investment Casting.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1000 kkg (pounds per million pounds) of metal poured	
Copper (T)	8.48	4.63
Lead (T)	5.84	2.86
Zinc (T)	8.37	3.19

	Maximum for any 1 day	Maximum for monthly average	Annual average ¹
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.77	0.42	1.87
Lead (T)	0.53	0.26	1.65
Zinc (T)	0.76	0.29	1.98

¹ kg/1000 kkg (pounds per million pounds) of metal poured. ²These concentrations must be multiplied by the ratio of (1,320/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(f) Melting Furnace Scrubber Operations.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	
	kg/62.3 million per billion scrubbed	Sm³ (pounds SCF) of air	
Copper (T) Lead (T) Zinc (T) Total phenols	1.81 1.25 1.79 2.02	0.988 0.612 0.673 0.706	

	Maximum for any 1 day	Maximum for monthly average	Annual average 1
Copper (T) Lead (T) Zinc (T) Total phenols	(mg/l) ² 0.77 0.53 0.76 0.86	(mg/l) ² 0.42 0.26 0.29 0.3	0.4 0.353 0.424 0.471

¹ kg/62.3 million Sm³ (pounds per billion SCF) of air

(g) Mold Cooling Operations.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (pounds per mi lion pounds) of metal poured	
Copper (T) Lead (T) Zinc (T)	0.392 0.27 0.387	0.214 0.132 0.148

	Maximum for any 1 day	Maximum for monthly average	Annual av- erage 1
Copper (T)	(mg/l) ² 0.77	(mg/l) ² 0.42	0.0865
Lead (T) Zinc (T)	0.53 0.76	0.26 0.29	0.0763 0.0916

¹kg/1,000 kkg (pounds per million pounds) of metal poured. ²These concentrations must be multiplied by the ratio of (61/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a spe-cific plant.

§464.24 New source performance standards.

Any new source subject to this subpart must achieve the following new source performance standards (NSPS), except that non-continuous dischargers shall not be subject to the maximum day and maximum for monthly average mass (kg/1,000 kkg or lb/million lb of metal poured; kg/62.3 million Sm3 or lb/billion SCF of air scrubbed) effluent standards for copper, lead, zinc, total phenols,

¹ kg/62.3 million Sm³ (pounds per billion SCF) of air scrubbed.

2 These concentrations must be multiplied by the ratio of (0.086/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant.

a specific plant.

^{[50} FR 45247, Oct. 30, 1985; 51 FR 21761, June 16, 1986]

oil and grease, and TSS. For non-continuous dischargers, annual average mass standards and maximum day and maximum for monthly average concentration (mg/l) standards shall apply. Concentration standards and annual average mass standards shall only apply to non-continuous dischargers.

(a) Casting Quench Operations.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	
	kg/1,000 kkg (pounds pe million pounds) of meta poured		
Copper (T) Lead (T) Zinc (T) Oil and grease TSS	0.0307 0.0211 0.0303 1.2 0.598	0.0168 0.0104 0.0116 0.399 0.479	
pH			

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual average ¹
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.77	0.42	0.0068
Lead (T)	0.53	0.26	0.006
Zinc (T)	0.76	0.29	0.0072
Oil and grease	30	10	0.199
TSS	15	12	0.104
pH	(3)	(3)	(3)

¹ kg/1,000 kkg (pounds per million pounds) of metal poured. ²These concentrations must be multiplied by the ratio of (4.8/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

³Within the range of 7.0 to 10.0 at all times.

(b) Direct Chill Casting Operations.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (pounds per m lion pounds) of metal poured	
Copper (T)	0.928	0.506
Lead (T)	0.639	0.314
Zinc (T)	0.916	0.35
Oil and grease	36.2	12.1
TSS	18.1	14.5
pH	(1)	(1)

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age ¹
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.77	0.42	0.205
Lead (T)	0.53	0.26	0.181
Zinc (T)	0.76	0.29	0.217
Oil and grease	30	10	6.03
TSS	15	12	3.13
pH	(3)	(3)	(3)

¹ kg/1,000 kkg (pounds per million pounds) of metal poured.
² These concentrations must be multiplied by the ratio of (145/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.
³ Within the range of 7.0 to 10.0 at all times.

(c) Dust Collection Scrubber Operations.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/62.3 million per billion scrubbed	Sm³ (pounds SCF) of air
Copper (T)	0.553 0.38 0.545 0.617	0.301 0.187 0.208 0.215
Oil and greasepH	21.5 10.8 (¹)	7.18 8.61 (¹)

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual average 1
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.77	0.42	0.122
Lead (T)	0.53	0.26	0.108
Zinc (T)	0.76	0.29	0.129
Total phenols	0.86	0.3	0.144
Oil and grease	30	10	3.59
TSS	15	12	1.87
pH	(3)	(3)	(3)

 $^{^{1}\}mbox{kg/62.3}$ million $\mbox{Sm}^{\,3}$ (pounds per billion SCF) of air scrubbed.

(e) Investment Casting.

²These concentrations must be multiplied by the ratio of (0.086/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant.

³ Within the range of 7.0 to 10.0 at all times.

⁽d) Grinding Scrubber Operations. No discharge of process wastewater pollutants to navigable waters.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	
	kg/1,000 kkg (pounds per mi lions pounds) of meta poured		
Copper (T) Lead (T) Zinc (T)	8.48 5.84 8.37	4.63 2.86 3.19	
Oil and grease	330 165	110 132	
pH	(1)	(1)	

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual average 1
Copper (T)	(mg/l) ² 0.77 0.53 0.76 30 15 (3)	mg/l) ² 0.42 0.26 0.29 10 12 (3)	1.87 1.65 1.98 55.1 28.6

1 kg/1,000 kkg (pounds per million pounds) of metal poured.

2 These concentrations must be multiplied by the ratio of (1,320/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

3 Within the range of 7.0 to 10.0 at all times.

(f) Melting Furnace Scrubber Operations.

NSPS

	-	
Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/62.3 million per billion scrubbed	Sm³ (pounds SCF) of air
O(T)	4.04	0.000
Copper (T)	1.81	0.988
Lead (T)	1.25	0.612
Zinc (T)	1.79	0.673
Total phenols	2.02	0.706
Oil and grease	70.6	23.5
TSS	35.3	28.2
pH	(1)	(1)

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual average ¹
Copper (T)	(mg/l) ² 0.77 0.53 0.76 0.86	(mg/l) ² 0.42 0.26 0.29 0.3	0.4 0.353 0.424 0.471
Oil and grease	30	10	11.8
TSS	15	12	6.12
pH	(3)	(3)	(3)

¹ kg/62.3 Sm³ (pounds per billion SCF) of air scrubbed.

² These concentrations must be multiplied by the ratio of (0.282/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant.

³ Within the range of 7.0 to 10.0 at all times.

(g) Mold Cooling Operations.

NSPS

Pollutant or pollutant property	Maximum for any 1 day Maximum monthly av	
	kg/1,000 kkg (pounds per mil lion pounds) of metal poured	
Copper (T)	0.392	0.214
Lead (T)	0.27	0.132
Zinc (T)	0.387 0.14	
Oil and grease	15.3	5.09
TSS	7.63	6.11
pH	(¹)	(¹)

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age 1
	(mg/1) ²	(mg/1) ²	
Copper (T)	0.77	0.42	0.0865
Lead (T)	0.53	0.26	0.0763
Zinc (T)	0.76	0.29	0.0916
Oil and grease	30	10	2.54
TSS	15	12	1.32
pH	(3)	(3)	(3)

¹kg/1,000 kkg (pounds per million pound) of metal poured.
²These concentrations must be multiplied by the ratio of (61/x) where x is the actual normalized process waste-water flow (in gallons per 1,000 pounds of metal poured) for a specific plant.
³Within the range of 7.0 to 10.0 at all times.

[50 FR 45247, Oct. 30, 1985; 51 FR 21761, June 16, 1986]

§464.25 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR part 403 and achieve the following pretreatment standards for existing sources.

(a) Casting Quench Operations.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1000 kkg (pounds million pounds) of m poured	
Copper (T) Lead (T) Zinc (T) TTO Oil and grease (for alternate	0.0307 0.0211 0.0303 0.0335	0.0168 0.0104 0.0116 0.0109
monitoring)	1.2	0.399

(b) Direct Chill Casting Operations.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T) Lead (T) Zinc (T)	0.928 0.639 0.916	0.506 0.314 0.35

(c) Dust Collection Scrubber Operations.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/62.3 million per billion scrubbed	Sm³ (pounds SCF) of air
Copper (T) Lead (T) Zinc (T) Total phenols TTO Oil and grease (for alternate monitoring)	0.552 0.38 0.545 0.617 1.65	0.301 0.187 0.208 0.215 0.54

- (d) Grinding Scrubber Operations. No discharge of process wastewater pollutants to a POTW.
 - (e) Investment Casting.

PSES

-		
Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (p lion pounds) of	
Copper (T)	8.48 5.84 8.37 25.4	4.63 2.86 3.19 8.29
monitoring)	330	110

(f) Melting Furnace Scrubber Operations.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	
	kg/62.3 million per billion scrubbed	Sm³ (pounds SCF) of air	
Copper (T)	1.81 1.25 1.79 2.02 5.41	0.988 0.612 0.673 0.706 1.77	
Oil and grease (for alternate monitoring)	70.6	23.5	

(g) Mold Cooling Operations.

PSES

Pollutant or pollutant property	Maximum for any 1 day Maximum for monthly ave age	
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.27 0.387 0.428 0.428	
nate monitoring)	15.3	5.09

§ 464.26 Pretreatment standards for new sources.

Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduces pollutants into publicly owned treatment works must comply with 40 CFR part 403 and achieve the following pretreatment standards for new sources.

(a) Casting Quench Operations.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (pounds pe million pounds) of meta poured	
Copper (T)	0.0307 0.0211 0.0303 0.0335	0.0168 0.0104 0.0116 0.0109
Oil and grease (for alternate monitoring)	1.2	0.0109

(b) Direct Chill Casting Operations.

PSNS

Pollutant or pollutant property	Maximum for any 1 day Maximum for monthly ave age	
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T) Lead (T) Zinc (T)	0.928 0.639 0.916	0.506 0.314 0.35

(c) Dust Collection Scrubber Operations.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	
	kg/62.3 Million per billion scrubbed	Sm³ (pounds SCF) of air	
Copper (T)	0.552 0.38 0.545 0.617 1.65	0.301 0.187 0.208 0.215 0.54	
nate monitoring	21.5	7.18	

- (d) Grinding Scrubber Operations. No discharge of process wastewater pollutants to a POTW.
 - (e) Investment Casting.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (pounds per mi lion pounds) of meta poured	
Copper (T) Lead (T) Zinc (T) TTO Oil and Grease (for alternate	8.48 5.84 8.37 25.4	4.63 2.86 3.19 8.29
monitoring	330	110

(f) Melting Furnace Scrubber Operations.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	
	kg/62.3 million per billion scrubbed	Sm³ (pounds SCF) of air	
Copper (T) Lead (T) Zinc (T) Total Phenols TTO Oil and Grease (for alter-	1.81 1.25 1.79 2.02 5.41	0.988 0.612 0.673 0.706 1.77	
nate monitoring	70.6	23.5	

(g) Mold Cooling Operations.

PSNS

Pollutant or pollutant property	Maximum for any 1 day Maximum for monthly ave age	
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	. 0.27 0.	
nate monitoring	15.3	5.09

§ 464.27 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology. [Reserved]

Subpart C—Ferrous Casting Subcategory

§ 464.30 Applicability; description of the ferrous casting subcategory.

The provisions of this subpart are applicable to discharges to waters of the United States and to the introduction of pollutants into publicly owned treatment works resulting from ferrous casting operations as defined in § 464.02(c).

§ 464.31 Specialized definitions.

For the purpose of this subpart:

- (a) Total Toxic Organics (TTO). TTO is a regulated parameter under PSES (§ 464.35) and PSNS (§ 464.36) for the ferrous subcategory and is comprised of a discrete list of toxic organic pollutants for each process segment where it is regulated, as follows:
- (1) Casting Quench ($\S 464.35(b)$) and $\S 464.36(b)$):
- 23. chloroform (trichloromethane)
- 34. 2,4-dimethylphenol
- (2) Dust Collection Scrubber (\S 464.35(c) and \S 464.36(b)):
- 1. acenaphthene
- 23. chloroform (trichloromethane)
- 31. 2,4-dichlorophenol
- 34. 2,4-dimethylphenol
- 39. fluoranthene
- 44. methylene chloride (dichloromethane)
- 55. naphthalene
- 64. pentachlorophenol
- 65. phenol
- 66. bis(2-ethylhexyl)phthalate
- 67. butyl benzyl phthalate
- 68. di-n-butyl phthalate
- 70. diethyl phthalate
- 71. dimethyl phthalate72. benzo (a)anthracene (1,2-benzanthracene)

- 76. chrysene
- 77. acenaphthylene
- 78 anthracene
- 80. fluorene
- 81. phenanthrene
- 84. pyrene
- (§ 464.35(e) and (3) Investment Casting § 464.36(e)):
- 23. chloroform (trichloromethane)
- 44. methylene chloride (dichloromethane)
- 66. bis (2-ethylhexyl) phthalate
- 77. acenaphthylene
- 84. pyrene
- (4) Melting Furnace Scrubber (§ 464.35(f) and § 464.36(f)):
- 23. chloroform (trichloromethane)
- 31. 2,4-dichlorophenol
- 34. 2,4-dimethylphenol
- 39. fluoranthene
- 44. methylene chloride (dichloromethane)
- 55. naphthalene
- 65. phenol
- 66. bis (2-ethylhexyl) phthalate
- 67. butyl benzyl phthalate
- 68. di-n-butyl phthalate
- 72. benzo (a)anthracene (1,2-benzanthracene)
- 76. chrysene
- 77. acenaphthylene 78. anthracene
- 80. fluorene
- 81. phenanthrene
- 84. pyrene
 - (5) Mold Cooling (§ 464.35(g) and § 464.36(g)):
- 23. chloroform (trichloromethane)
- 34. 2.4-dimethylphenol
 - (6) Slag Quench (§ 464.35(h) and § 464.36(h)):
- 34. 2,4-dimethylphenol
- 71. dimethyl phthalate
- (7) Wet Sand Reclamation (§ 464.35(i) and § 464.36(i)):
- 1. acenaphthene
- 34. 2.4-dimethylphenol
- 39. fluoranthene
- 44. methylene chloride (dichloromethane)
- 55. naphthalene
- 65. phenol
- 66. bis (2-ethylhexyl) phthalate
- 68. di-n-butyl phthalate 70. diethyl phthalate
- 71. dimethyl phthalate
- 72. benzo(a)anthracene (1,2-benzanthracene)
- 77. acenaphthylene
- (b) Cast Iron. An iron containing carbon in excess of the solubility in the austentite that exists in the alloy at the eutectic temperature. Cast iron also is defined here to include any iron-carbon alloys containing 1.2 percent or more carbon by weight.

- (c) Ductile Iron. A cast iron that has been treated while molten with a master alloy containing an element such as magnesium or cerium to induce the formation of free graphite as nodules or spherules, which imparts a measurable degree of ductility to the cast metal.
- (d) Gray Iron. A cast iron that gives a gray fracture due to the presence of flake graphite.
- (e) Malleable Iron. A cast iron made by a prolonged anneal of white cast iron in which decarburization or graphitization, or both, take place to eliminate some or all of the cementite. Graphite is present in the form of temper carbon.
- (f) Steel. An iron-base alloy containing carbon, manganese, and often other alloying elements. Steel is defined here to include only those ironcarbon alloys containing less than 1.2 percent carbon by weight.
- (g) The "primary metal cast" shall mean the metal that is poured in the greatest quantity at an individual plant.
- (h) Multiple Ferrous Melting Furnace Scrubber Configuration. A multiple ferrous melting furnace scrubber configuration is a configuration where two or more discrete wet scrubbing devices are employed in series in a single melting furnace exhaust gas stream. The ferrous melting furnace scrubber mass allowance shall be given to each discrete wet scrubbing device that has an associated wastewater discharge in a multiple ferrous melting furnace scrubber configuration. The mass allowance for each discrete wet scrubber shall be identical and based on the air flow of the exhaust gas stream that passes through the multiple scrubber configuration.
- (i) Discrete Wet Scrubbing Device. A discrete wet scrubbing device is a distinct, stand-alone device that removes particulates and fumes from a contaminated gas stream by bringing the gas stream into contact with a scrubber liquor, usually water, and from which there is a wastewater discharge. Examples of discrete wet scrubbing devices are: Spray towers and chambers, venturi scrubbers (fixed and variable), wet caps, packed bed scrubbers, quenchers, and orifice scrubbers. Semi-wet scrubbing devices where water is added and totally evaporates prior to dry air pollution control are not considered to be discrete wet scrubbing devices. Ancillary scrubber operations such as fan washes and backwashes are not considered to be discrete wet scrubber devices. These ancillary operations are covered by the mass limitations of the associated scrubber. Aftercoolers are not considered to be discrete wet scrubbing devices, and water discharges from aftercooling are not regulated as a process wastewater in this category.

§464.32 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available, except that non-continuous dischargers shall not be subject to the maximum day and maximum for monthly average mass (kg/1,000 kkg or lb/million lb of metal poured; kg/1,000 kkg or lb/million lb of sand reclaimed; kg/62.3 million Sm3 or lb/billion SCF of air scrubbed) effluent limitations for copper, lead, zinc, total phenols, oil and grease, and TSS. For non-continuous dischargers, annual average mass limitations and maximum day and maximum for monthly average concentration (mg/l) limitations shall apply. Concentration limitations and annual average mass limitations shall only apply to noncontinuous dischargers.

(a) Casting Cleaning Operations.

BPT EFFLUENT LIMITATIONS

Maximum for any 1 day	Maximum for monthly average
kg/1,000 kkg (pounds pe million pounds) of meta poured	
0.0129	0.0071
0.0353	0.0174
0.0656	0.025
1.34	0.446
1.7	0.67
(¹)	(1)
	any 1 day kg/1,000 kkg million pour poured 0.0129 0.0353 0.0656 1.34 1.7

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age 1
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.29	0.16	0.0029
Lead (T)	0.79	0.39	0.0098
Zinc (T)	1.47	0.56	0.0179
Oil and grease	30	10	0.223
TSS	38	15	0.446
pH	(3)	(3)	(3)

¹ kg/1,000 kkg (pounds per million pounds) of metal poured. ¹ kg/1,000 kkg (pounds per million pounds) of metal poured.
² These concentrations must be multiplied by the ratio (5.33/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.
³ Within the range of 7.0 to 10.0 at all times.

(b) Casting Quench Operations

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day Maximum for monthly ave age	
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0138 0.0376 0.0699 1.43 1.81	0.0076 0.0185 0.0266 0.476 0.713
pH	(1) (1)	

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age ¹
Copper (T) Lead (T) Zinc (T)	(mg/l) ² 0.29 0.79 1.47	(mg/l) ² 0.16 0.39 0.56	0.0031 0.0105 0.019
Oil and grease TSSpH	30 38 (³)	10 15 (3)	0.238 0.476 (3)

¹kg/1,000 kkg (pounds per million pounds) of metal poured. ²These concentrations must be multiplied by the ratio of (5.7/k) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a spe-cific plant. ³Within the range of 7.0 to 10.0 at all times.

(c) Dust Collection Scrubber Operations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/62.3 million per billion scrubbed	Sm³ (pounds SCF) of air
Copper (T) Lead (T) Zinc (T) Total phenols Oil and grease TSS PH	0.218 0.593 1.1 0.656 22.5 28.5 (1)	0.12 0.293 0.421 0.225 7.51 11.3 (1)

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age 1
	(mg/l) ²	(mg/l) ²	(mg/l) ²
Copper (T)	0.29	0.16	0.0488
Lead (T)	0.79	0.39	0.165
Zinc (T)	1.47	0.56	0.3
Total phenols	0.86	0.3	0.15
Oil and grease	30	10	3.76
TSS	38	15	7.51
pH	(3)	(3)	(3)

¹kg/62.3 million Sm³ (pounds per billion SCF) of air

 ¹kg/62.3 million on pos...

2 These concentrations must be multiplied by the ratio (0.090/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 SCF of air scrubbed) for possific plant. a specific plant.

³ Within the range of 7.0 to 10.0 at all times.

(d) Grinding Scrubber Operations. No discharge of process wastewater pollutants to navigable wa-

(e) Investment Casting.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	3.19	1.76
Lead (T)	8.7	4.3
Zinc (T)	16.2	6.17
Oil and grease	330	110
TSS	419	165
pH	(1)	(1)

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual average 1
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.29	0.16	0.716
Lead (T)	0.79	0.39	2.42
Zinc (T)	1.47	0.56	4.41
Oil and grease	30	10	55.1
TSS	38	15	110
pH	(3)	(3)	(3)

¹ kg/1,000 kkg (pounds per million pounds) of metal poured.

² These concentrations must be multiplied by the ratio of (1,320/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

³ Within the range of 7.0 to 10.0 at all times.

(f) Melting Furnace Scrubber Operations.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/62.3 million per billion scrubbed	Sm³ (pounds SCF) of air
Copper (T)	1.02 2.77 5.15 3.01 105 133 (¹)	0.561 1.37 1.96 1.05 35 52.6 (1)

¹Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual average ¹
Copper (T)	(mg/l) ² 0.29 0.79 1.47 0.86 30 38 (³)	(mg/l) ² 0.16 0.39 0.56 0.3 10 15 (³)	0.228 0.771 1.4 0.701 17.5 35 (3)

(g) Mold Cooling Operations.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day Maximum for monthly ave age		
	kg/1,000 kkg (pounds per million pounds) of metal poured		
Copper (T)	. 0.117 0.05 0.217 0.08 . 4.43 1.48 5.61 2.22		

¹Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age 1
Copper (T) Lead (T) Zinc (T)	(mg/l) ² 0.29 0.79 1.47	(mg/l) ² 0.16 0.39 0.56	0.0096 0.0325 0.0591
Oil and grease	30	10	0.738
TSS	38	15	1.48
pH	(3)	(3)	(3)

¹ kg/1,000 kkg (pounds per million pounds) of metal poured 2 These concentrations must be multiplied by the ratio of (17.7/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

3Within the range of 7.0 to 10.0 at all times.

(h) Slag Quench Operations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (pounds p million pounds) of me poured	
Cooper (T) Lead (T) Zinc (T) Oil and grease TSS	0.0527 0.144 0.267 5.46 6.91	0.0291 0.0709 0.102 1.82 2.73
pH	(1)	(¹)

¹ Within the range 7.0 to 10.0 at all times.

¹kg/62.3 million Sm³ (pounds per billion SCF) or air scrubbed.
² These concentrations must be multiplied by the ratio of (0.42/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant plant.

3 Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age 1
Copper (T)	(mg/l) ² 0.29 0.79 1.47 30 38 (3)	(mg/l) ² 0.16 0.39 0.56 10 15 (3)	0.0118 0.04 0.0728 0.909 1.82

¹kg/1,000 kkg (pounds per million pounds) of metal poured. ²These concentrations must be multiplied by the ratio of (21.8/x) where x is the actual normalized process wasterwater flow (in gallons per 1,000 pounds of metal poured) for a spe-cific plant. ³Within the range of 7.0 to 10.0 at all times.

(i) Wet Sand Reclamation Operations.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (p lion pounds) claimed	ounds per mil- of sand re-
Cooper (T)	0.217 0.59 1.1 0.642 22.4 28.4 (¹)	0.12 0.291 0.418 0.224 7.47 11.2 (1)

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age 1
	(mg/l) ²	(mg/l) ²	
Cooper (T)	0.29	0.16	0.0485
Lead (T)	0.79	0.39	0.164
Zinc (T)	1.47	0.56	0.299
Total phenols	0.86	0.3	0.149
Oil and grease	30	10	3.73
TSS	38	15	7.47
pH	(3)	(3)	(3)

¹ kg/1,000 kkg (pounds per million pounds) of sand re-

[50 FR 45247, Oct. 30, 1985; 51 FR 21761, June 16, 19861

§ 464.33 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable, except that non-continuous dischargers shall not be subject to

the maximum day and maximum for monthly average mass (kg/1,000 kkg or lb/million lb of metal poured; kg/1,000 kkg or lb/million lb of sand reclaimed; kg/62.3 million Sm3 or lb/billion SCF of air scrubbed) effluent limitations for copper, lead, zinc, and total phenols. For non-continuous dischargers, annual average mass limitations and maximum day and maximum for monthly average concentration (mg/l) limitations shall apply. Concentration limitations and annual average mass limitations shall only apply to non-continuous dis-

(a) Casting Cleaning Operations. (1) Applicable to plants that are casting primarily ductile or gray iron and to plants that are casting primarily malleable iron where greater than 3,557 tons of metal are poured per year.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day Maximum monthly a	
	kg/1,000 kkg (pounds pe million pounds) of meta poured	
Copper (T) Lead (T) Zinc (T)	0.0129 0.0237 0.0437	0.0071 0.0116 0.0165

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age 1
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.29	0.16	0.0029
Lead (T)	0.53	0.26	0.0067
Zinc (T)	0.98	0.37	0.0116

¹ kg/1,000 kkg (pounds per million pounds) of metal poured. ²These concentrations must be multiplied by the ratio of (5.33/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) Applicable to plants that are casting primarily steel and to plants that are casting primarily malleable iron where equal to or less than 3,557 tons of metal are poured per year.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (pounds pe million pounds) of meta poured	
Copper (T) Lead (T) Zinc (T)	0.0129 0.0353 0.0656	0.0071 0.0174 0.025

¹ kg/1,000 kkg (pounds per infilinor) pounds; 6. Said :-claimed.

2 These concentrations must be multiplied by the ratio of (89.5/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of sand reclaimed) for a specific plant.

3 Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age ¹
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.29	0.16	0.0029
Lead (T)	0.79	0.39	0.0098
Zinc (T)	1.47	0.56	0.0179

 $^{^1\,\}text{kg/1,000}$ kkg (pounds per million pounds) of metal poured. $^2\,\text{These}$ concentrations must be multiplied by the ratio of (5.33/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(b) Casting Quench Operations. (1) Applicable to plants that are casting primarily ductile or gray iron and to plants that are casting primarily malleable iron where greater than 3,557 tons of metal are poured per year.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day Maximum monthly av age	
	kg/100 kkg (pounds per mil- lion pounds) of metal poured	
Copper (T)	0.0138 0.0252 0.0466	0.0076 0.0124 0.0176

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age ¹
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.29	0.16	0.0031
Lead (T)	0.53	0.26	0.0071
Zinc (T)	0.98	0.37	0.0124

¹kg/1,000 kkg (pounds per million pounds) of metal poured.
²These concentrations must be multiplied by the ratio of (5.7/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) Applicable to plants that are casting primarily steel and to plants that are casting primarily malleable iron where equal to or less than 3,557 tons of metal are poured per year.

BAT EFFLUENT LIMITATIONS

Maximum for any 1 day Maximum for monthly av age	
kg/1,000 kkg (pounds per million pounds) of metal poured	
0.0138 0.0376 0.0699	0.0076 0.0185 0.0266
	kg/1,000 kkg million poun poured

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age ¹
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.29	0.16	0.0031
Lead (T)	0.79	0.39	0.0105
Zinc (T)	1.47	0.56	0.019

¹ kg/1,000 kkg (pounds per million pounds) of metal poured.
²These concentrations must be multiplied by the ratio of (5.7/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(c) Dust Collection Scrubber Operations. (1) Applicable to plants that are casting primarily ductile or gray iron and to plants that are casting primarily malleable iron where greater than 3,557 tons of metal are poured per year.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/62.3 million per billion scrubbed	Sm³ (pounds SCF) of air
Copper (T)	0.218 0.398 0.736 0.646	0.12 0.195 0.278 0.225

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age 1
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.29	0.16	0.0488
Lead (T)	0.53	0.26	0.113
Zinc (T)	0.98	0.37	0.195
Total phenols	0.86	0.3	0.15

 $^{^{1}\,\}text{kg/62.3}$ million $\,\text{Sm}^{3}$ (pounds per billion SCF) of air scrubbed.

(2) Applicable to plants that are casting primarily steel and to plants that are casting primarily malleable iron where equal to or less than 3,557 tons of metal are poured per year.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/62.3 million per billion scrubbed	Sm³ (pounds SCF) of air
Copper (T) Lead (T) Zinc (T) Total phenols	0.218 0.593 1.1 0.656	0.12 0.293 0.421 0.225

crubbed.

2 These concentrations must be multiplied by the ratio of (0.09/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant.

§ 464.33

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age ¹
Copper (T)	(mg/l) ² 0.29	(mg/l) ² 0.16	0.0488
Lead (T)	0.79	0.39	0.165
Zinc (T)	1.47	0.56	0.3
Total phenols	0.86	0.3	0.15

 $^{^{1}\}mbox{kg/}62.3$ million \mbox{Sm}^{3} (pounds per billion SCF) of air scrubbed.

(d) Grinding Scrubber Operations. No discharge of process wastewater pollutants to navigable waters.

(e) Investment Casting. (1) Applicable to plants that are casting primarily ductile or gray iron and to plants that are casting primarily malleable iron where greater than 3,557 tons of metal are poured per year.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T) Lead (T) Zinc (T)	3.19 5.84 10.8	1.76 2.86 4.07

	Maximum for any 1 day	Maximum for monthly average	Annual average 1
Copper (T) Lead (T) Zinc (T)	(mg/l) ² 0.29 0.53 0.98	(mg/l) ² 0.16 0.26 0.37	0.716 1.65 2.86

¹kg/1,000 kkg (pounds per million pounds) of metal poured.
²These concentrations must be multiplied by the ratio of (1,320/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) Applicable to plants that are casting primarily steel and to plants that are casting primarily malleable iron where equal to or less than 3,557 tons of metal are poured per year.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (pounds per mil lion pounds) of metal poured	
Copper (T) Lead (T) Zinc (T)	3.19 8.7 16.2	1.76 4.3 6.17

	Maximum for any 1 day	Maximum for monthly average	Annual average 1
Copper (T) Lead (T)	(mg/l) ² 0.29 0.79	(mg/l) ² 0.16 0.39	0.716 2.42
Zinc (T)	1.47	0.56	4.41

¹kg/1,000 kkg (pounds per million pounds) of metal poured.
²These concentrations must be multiplied by the ratio of (1,320/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(f) Melting Furnace Scrubber Operations. (1) Applicable to plants that are casting primarily ductile or gray iron and to plants that are casting primarily malleable iron where greater than 3,557 tons of metal are poured per year.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/62.3 million per billion scrubbed	Sm³ (pounds SCF) of air
Copper (T)	1.02 1.86 3.44 3.01	0.561 0.911 1.3 1.05

	Maximum for any 1 day	Maximum for monthly average	Annual average ¹
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.29	0.16	0.228
Lead (T)	0.53	0.26	0.526
Zinc (T)	0.98	0.37	0.911
Total Phenols	0.86	0.3	0.701

¹kg/62.3 million Sm³ (pounds per billion SCF) of air

(2) Applicable to plants that are casting primarily steel and to plants that are casting primarily malleable iron where equal to or less than 3,557 tons of metal are poured per year.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/62.3 million per billion scrubbed	Sm³ (pounds SCF) of air
Copper (T) Lead (T) Zinc (T) Total Phenols	1.02 2.77 5.15 3.01	0.561 1.37 1.96 1.05

²These concentrations must be multiplied by the ratio of (0.09/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant.

^{&#}x27;kg/s2.3 million Sm³ (pounds per billion SCF) of air scrubbed

2 These concentrations must be multiplied by the ratio of (0.42/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant.

	Maximum for any 1 day	Maximum for monthly average	Annual average ¹
Copper (T)	(mg/l) ² 0.29 0.79 1.47 0.86	(mg/l) ² 0.16 0.39 0.56 0.3	0.228 0.771 1.4 0.701

 $^{^{1}\,\}text{kg/}62.3$ million $\text{Sm}^{\,3}$ (pounds per billion SCF) of air scrubbed.

(g) Mold Cooling Operations. (1) Applicable to plants that are casting primarily ductile or gray iron and to plants that are casting primarily malleable iron where greater than 3,557 tons of metal are poured per year.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	
	kg/1,000 kkg (pounds per million pounds) of metal poured		
Copper (T) Lead (T) Zinc (T)	0.0428 0.0783 0.145	0.0236 0.0384 0.0546	

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age ¹
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.29	0.16	0.0096
Lead (T)	0.53	0.26	0.0222
Zinc (T)	0.98	0.37	0.0384

 $^{^1\,\}text{kg/1,000}$ kkg (pounds per million pounds) of metal poured. 2 These concentrations must be multiplied by the ratio of (17.7/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) Applicable to plants that are casting primarily steel and to plants that are casting primarily malleable iron where equal to or less than 3,557 tons of metal are poured per year.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day Maximum fromonthly average	
	kg/1,000 kkg (pounds per million pounds) of meta poured	
Copper (T)	0.0428	0.0236
Lead (T)	0.117	0.0576
Zinc (T)	0.217	0.0827

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age ¹
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.29	0.16	0.0096
Lead (T)	0.79	0.39	0.0325
Zinc (T)	1.47	0.56	0.0591

¹kg/1,000 kkg (pounds per million pounds) of metal poured.
²These concentrations must be multiplied by the ratio of (17.7/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(h) Slag Quench Operations. (1) Applicable to plants that are casting primarily ductile or gray iron and to plants that are casting primarily malleable iron where greater than 3,557 tons of metal are poured per year.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	y Maximum for any 1 day Maximumonthly age	
	kg/1,000 kkg (pounds pe million pounds) of meta poured	
Copper (T)	0.0527	0.0291 0.0473
Lead (T)	0.0964 0.178	0.0473

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age 1
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.29	0.16	0.0118
Lead (T)	0.53	0.26	0.0273
Zinc (T)	0.98	0.37	0.0473

¹ Kg/1,000 kkg (pounds per million pounds) of metal poured. ² These concentrations must be multiplied by the ratio of (21.8/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) Applicable to plants that are casting primarily steel and to plants that are casting primarily malleable iron where equal to or less than 3,557 tons of metal are poured per year.

Pollutant or pollutant property	Maximum for any 1 day Maximum for monthly a age	
	kg/1,000 kkg (pounds p million pounds) of me poured	
Copper (T) Lead (T) Zinc (T)	0.0527 0.144 0.267	0.0291 0.0709 0.102

²These concentrations must be multiplied by the ratio of (0.42/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant.

§ 464.34

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age 1
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.29	0.16	0.0118
Lead (T)	0.79	0.39	0.04
Zinc (T)	1.47	0.56	0.0728

¹ kg/1,000 kkg (pounds per million pounds) of metal poured.
²These concentrations must be multiplied by the ratio of (21.8/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(i) Wet Sand Reclamation Operations. (1) Applicable to plants that are casting primarily ductible or gray iron and to plants that are casting malleable iron where greater than 3,557 tons of metal are poured per year.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (pounds per m lion pounds) of sand re claimed	
Copper (T) Lead (T) Zinc (T) Total Phenols	0.217 0.396 0.732 0.642	0.12 0.194 0.276 0.224

	Maximum for any 1 day	Maximum for monthly average	Annual average 1
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.29	0.16	0.0485
Lead (T)	0.53	0.26	0.112
Zinc (T)	0.98	0.37	0.194
Total Phenols	0.86	0.3	0.149

¹kg/1000 kkg (pounds per million pounds) of sand reclaimed.

(2) Applicable to plants that are casting primarily steel and to plants that are casting primarily malleable iron where equal to or less than 3,557 tons of metal are poured per year.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly aver- age
	kg/1,000 kkg (pounds per mil- lion pounds) of sand re- claimed	
Copper (T) Lead (T) Zinc (T) Total Phenols	0.217 0.59 1.1 0.642	0.12 0.291 0.418 0.224
Total Prienois	0.642	0.224

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age 1
- T	(mg/l) ²	(mg/l) ²	0.0405
Copper (T)	0.29	0.16	0.0485
Lead (T)	0.79	0.39	0.164
Zinc (T)	1.47	0.56	0.299
Total Phenols	0.86	0.3	0.149

¹kg/1000 kkg (pounds per million pounds) of sand reclaimed.

[50 FR 45247, Oct. 30, 1985; 51 FR 21761, June 16, 1986]

§ 464.34 New source performance standards.

Any new source subject to this subpart must achieve the following new source performance standards (NSPS), except that non-continuous dischargers shall not be subject to the maximum day and maximum for monthly average mass (kg/1,000 kkg or lb/million lb of metal poured; kg/1,000 kkg or lb/million lb of sand reclaimed; kg/62.3 million Sm³ or lb/billion SCF of air scrubbed) effluent standards for copper, lead, zinc, total phenols, oil and grease, and TSS. For non-continuous dischargers, annual average mass standards and maximum day and maximum for monthly average concentration (mg/l) standards shall apply. Concentration standards and annual average mass standards shall only apply to non-continuous dischargers.

(a) Casting Cleaning Operations. (1) Applicable to plants that are casting primarily ductile or gray iron and to plants that are casting primarily malleable iron where greater than 3,557 tons of metal are poured per year.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	
	kg/1,000 kkg (pounds pe million pounds) of meta poured		
Copper (T)	0.0129	0.0071	
Lead (T)	0.0237	0.0116	
Zinc (T)	0.0437	0.0165	
Oil and grease	1.34	0.446	
TSS	0.67	0.536	
pH	(1)	(1)	

¹ Within the range of 7.0 to 10.0 at all times.

² These concentrations must be multiplied by the ratio of (89.5/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of sand reclaimed) for a specific plant.

² These concentrations must be multiplied by the ratio of (89.5/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of sand reclaimed) for a specific plant.

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age 1
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.29	0.16	0.0029
Lead (T)	0.53	0.26	0.0067
Zinc (T)	0.98	0.37	0.0116
Oil and grease	30	10	0.223
TTS	15	12	0.116
pH	(3)	(3)	(3)

¹ kg/1000 kkg (pounds per million pounds) of metal poured.
2 These concentrations must be multiplied by the ratio of (5.33/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(2) Applicable to plants that are casting primarily steel and to plants that are casting primarily malleable iron where equal to or less than 3,557 tons of metal are poured per year.

NSPS

Pollutant or pollutant property	Maximum for any 1 day Maximum monthly a	
	kg/1,000 kkg million poun poured	(pounds per ds) of metal
Copper (T)	0.0129	0.0071
Lead (T)	0.0353	0.0174
Zinc (T)	0.0656	0.025
Oil and grease	1.34	0.446
TSS	1.7	0.67
pH	(1)	(1)

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age 1
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.29	0.16	0.0029
Lead (T)	0.79	0.39	0.0098
Zinc (T)	1.47	0.56	0.0179
Oil and grease	30	10	0.223
TTS	38	15	0.446
pH	(3)	(3)	(3)

¹kg/1,000 kkg (pounds per million pounds) of metal poured.
²These concentrations must be multiplied by the ratio of (5.35/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.
³Within the range of 7.0 to 10.0 at all times.

(b) Casting Quench Operations. (1) Applicable to plants that are casting primarily ductile or gray iron and to plants that are casting primarily malleable iron where greater than 3,557 tons of metal are poured per year.

NSPS

Pollutant or pollutant property	Maximum for any 1 day Maximum monthly a age	
	kg/1,000 kkg (pounds per million pounds) of met- poured	
Copper (T)	0.0138 0.0252 0.0466 1.43 0.713	0.0076 0.0124 0.0176 0.476 0.571 (¹)

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum	Maximum	Annual
	for any 1	for monthly	aver-
	day	average	age 1
Copper (T) Lead (T) Zinc (T) Oil and grease TSS pH	(mg/l) ² 0.29 0.53 0.98 30 15 (³)	(mg/l) ² 0.16 0.26 0.37 10 12 (³)	0.0031 0.0071 0.0124 0.238 0.124 (³)

(2) Applicable to plants that are casting primarily steel and to plants that are casting primarily malleable iron where equal to or less than 3,557 tons of metal are poured per year.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	
	kg/1,000 kkg (pounds p million pounds) of met poured		
Copper (T)	0.0138 0.0376 0.0699 1.43 1.81	0.0076 0.0185 0.0266 0.476 0.713	

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age 1
Copper (T)	(mg/l) ² 0.29 0.79 1.47 30 38 (3)	(mg/l) ² 0.16 0.39 0.56 10 15 (3)	0.0031 0.0105 0.019 0.238 0.476 (³)

¹Kg/1000 kkg (pounds per million pounds) of metal poured. ²These concentrations must be multiplied by the ratio of (5.7/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

³Within the range of 7.0 to 10.0 at all times.

¹ Kg/1000 kkg (pounds per million pounds) of metal poured.
2 Within the range of 7.0 to 10.0 at all times.
3 These concentrations must be multiplied by the ratio of (5.7x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

³ Within the range of 7.0 to 10.0 at all times.

(c) Dust Collection Scrubber Operations. (1) Applicable to plants that are casting primarily ductible or gray iron and to plants that are casting primarily malleable iron where greater than 3,557 tons of metal are poured per year.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/62.3 million per billion scrubbed	Sm³ (pounds SCF) of air
Copper (T)	0.218	0.12
Lead (T)	0.398	0.195
Zinc (T)	0.736	0.278
Total Phenols	0.646	0.225
Oil and grease	22.5	7.51
TSS	11.3	9.01
pH	(¹)	(1)

¹ Within the range of 7.0 to 10.0 at all times.

Maximum for any 1 day	Maximum for monthly average	Annual aver- age 1
(mg/l) ²	(mg/l) ²	
0.29	0.16	0.0488
0.53	0.26	0.113
0.98	0.37	0.195
0.86	0.3	0.15
30	10	3.76
15	12	1.95
(3)	(3)	(3)
	(mg/l) ² 0.29 0.53 0.98 0.86 30	for any 1 day for monthly average (mg/l) ² (mg/l) ² 0.29 0.16 0.53 0.26 0.98 0.37 0.86 0.3 30 10 15 12

 $^{1}\mbox{kg/62.3}$ millions \mbox{Sm}^{3} (pound per billion SCF) of air scrubbed.

(2) Applicable to plants that are casting primarily steel and to plants that are casting primarily malleable iron where equal to or less than 3,557 tons of metal are poured per year.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/62.3 million per billion scrubbed	Sm³ (pounds SCF) of air
Copper (T) Lead (T) Zinc (T) Total phenols	0.218 0.593 1.1 0.656	0.12 0.293 0.421 0.225
Oil and grease	22.5 28.5	7.51 11.3
pH	(1)	(1)

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age 1
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.29	0.16	0.0488
Lead (T)	0.79	0.39	0.165
Zinc (T)	1.47	0.56	0.3
Total phenols	0.86	0.3	0.15
Oil and grease	30	10	3.76
TSS	38	15	7.51
pH	(3)	(3)	(3)

 $^{1}\mbox{kg/62.3}$ millions \mbox{Sm}^{3} (pound per billion SCF) of air scrubbed.

² Within the range of 7.0 to 10.0 at all times.

³ These concentrations must be multiplied by the ratio of (0.09/) where is the actual normalized process wastewater flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant.

(d) Grinding Scrubber Operations. No discharge of process wastewater pollutants to navigable waters.

(e) Investment Casting. (1) Applicable to plants that are casting primarily ductile or gray iron and to plants that are casting primarily malleable iron where greater than 3,557 tons of metal are poured per year.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly aver age	
	kg/1,000 kkg (p lion pounds) of		
Copper (T) Lead (T) Zinc (T)	3.19 5.84 10.8	1.76 2.86 4.07	
Oil and grease	330	110	
TSS	165	132	
pH	(¹)	(¹)	

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual average 1
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.29	0.16	0.716
Lead (T)	0.53	0.26	1.65
Zinc (T)	0.98	0.37	2.86
Oil and grease	30	10	55.1
TSS	15	12	28.6
pH	(3)	(3)	(3)

¹kg/1,000 kkg (pounds per million pounds) of metal poured.
² These concentrations must be multiplied by the ratio of (1,320/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.
³ Within the range of 7.0 to 10.0 at all times.

(2) Applicable to plants that are casting primarily steel and to plants that are casting primarily malleable iron where equal to or less than 3,557 tons of metal are poured per year.

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² Within the range of 7.0 to 10.0 at all times.

³ These concentrations must be multiplied by the ratio of (0.09/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant.

NSPS

Pollutant or pollutant property	Maximum for any 1 day Maximum monthly av age		
	kg/1,000 kkg (pounds per mil- lion pounds) of metal poured		
Copper (T) Lead (T)	3.19 8.7	1.76 4.3	
Zinc (T)	16.2	6.17	
Oil and grease	330	110	
TSS	419	165	
На	(1)	(1)	

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual average 1
Copper (T)	(mg/l) ² 0.29 0.79 1.47 30 38	(mg/l) ² 0.16 0.39 0.56 10 15	0.716 2.42 4.41 55.1 110
pH	(3)	(3)	(3)

1 kg/1,000 kkg (pounds per million pounds) of metal poured.
2 These concentrations must be multiplied by the ratio of (1,320/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.
3 Within the range of 7.0 to 10.0 at all times.

(f) Melting Furnace Scrubber Operations. (1) Applicable to plants that are casting primarily ductile or gray iron and to plants that are casting primarily malleable iron where greater than 3,557 tons of metal are poured per year.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly aver- age	
	kg/62.3 million per billion scrubbed	Sm³ (pounds SCF) of air	
Copper (T)	1.02	0.561	
Lead (T)	1.86	0.911	
Zinc (T)	3.44	1.30	
Total phenols	3.01	1.05	
Oil and grease	105	35	
TSS	52.6	42.1	
pH	(1)	(1)	

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual average
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.29	0.16	0.228
Lead (T)	0.53	0.26	0.526
Zinc (T)	0.98	0.37	0.911
Total phenols	0.86	0.3	0.701
Oil and grease	30	10	17.5
TSS	15	12	9.11
pH	(3)	(3)	(3)

 $^{1}\mbox{kg/62.3}$ million $\mbox{Sm}^{\,3}$ (pounds per billion SCF) of air scrubbed.

 $^2\,\text{These}$ concentrations must be multiplied by the ratio of (0.42/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant. $^3\,\text{Within}$ the range of 7.0 to 10.0 at all times.

(2) Applicable to plants that are casting primarily steel and to plants that are casting primarily malleable iron where equal to or less than 3,557 tons of metal are poured per year.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	
	kg/62.3 million per billion scrubbed		
Copper (T)	1.02 2.77 5.15 3.01 105 133 (¹)	0.561 1.37 1.96 1.05 35 52.6 (1)	

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual average
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.29	0.16	0.228
Lead (T)	0.79	0.39	0.771
Zinc (T)	1.47	0.56	1.4
Total phenols	0.38	0.3	0.701
Oil and grease	30	10	17.5
TSS	38	15	35
pH	(3)	(3)	(3)

¹kg/62.3 million Sm³ (pounds per billion SCF) of air scrubbed.
²These concentrations must be multiplied by the ratio of (0.42/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant.
³Within the range of 7.0 to 10.0 at all times.

(g) Mold Cooling Operations. (1) Applicable to plants that are casting primarily ductile or gray iron and to plants that are casting primarily malleable iron where greater than 3,557 tons of metal are poured per year.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	
	kg/1,000 kkg (pounds pe million pounds) of meta poured		
Copper (T) Lead (T) Zinc (T) Oil and grease TSS	0.0428 0.0783 0.0145 4.43 2.22	0.0236 0.0384 0.0546 1.48 1.77	
pH	(¹)	(1)	

¹ Within the range of 7.0 to 10.0 at all times.

Maximum for any 1 day	Maximum for monthly average	Annual aver- age ¹
(mg/l) ²	(mg/l) 1	
0.29	0.16	0.0096
0.53	0.26	0.0222
0.98	0.37	0.0384
30	10	0.738
15	12	0.384
(3)	(3)	(3)
	(mg/l) ² 0.29 0.53 0.98 30	for any 1 for monthly average (mg/l) ² (mg/l) ¹ 0.29 0.16 0.53 0.26 0.98 0.37 30 10 15 12

(2) Applicable to plants that are casting primarily steel and to plants that are casting primarily malleable iron where equal to or less than 3,557 tons of metal are poured per year.

NSPS

Pollutant or pollutant property	Maximum for any 1 day Maximum monthly av	
	kg/1,000 kkg (pounds pe million pounds) of meta poured	
Copper (T)	0.0428	0.0236
Lead (T)	0.117	0.0576
Zinc (T)	0.217	0.0827
Oil and grease	4.43	1.48
TSS	5.61	2.22
pH	(1)	(1)

¹ Within the range of 7.0 to 10.0 at all times.

Maximum for any 1 day	Maxium for monthly average	Annual aver- age ¹
(mg/1) ²	(mg/l) ²	
0.29	0.16	0.0096
0.79	0.39	0.0325
1.47	0.56	0.0591
30	10	0.738
38	15	1.48
(3)	(3)	(3)
	(mg/1) ² 0.29 0.79 1.47 30 38	for any 1 monthly average (mg/1) ² (mg/l) ² 0.29 0.16 0.79 0.39 1.47 0.56 30 10 38 15

(h) Slag Quench Operations. (1) Applicable to plants that are casting primarily ductile or gray iron and to plants that are casting primarily malleable iron where greater than 3,557 tons of metal are poured per year.

NSPS

Pollutant or pollutant property	Maximum for any 1 day Maximum monthly avage		
	kg/1,000 kkg (pounds per million pounds) of metal poured		
Copper (T)	0.0527	0.0291	
Lead (T)	0.0964	0.0473	
Zinc (T)	0.178	0.0673	
Oil and grease	5.46	1.82	
TSS	2.73	2.18	
pH	(1)	(1)	

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum	Maximum	Annual
	for any 1	for monthly	aver-
	day	average	age 1
Copper (T) Lead (T) Zinc (T) Oil and grease TSS	(mg/l) ² 0.29 0.53 0.98 30 15 (³)	(mg/l) ² 0.16 0.26 0.37 10 12 (³)	0.0118 0.0273 0.0473 0.909 0.473 (3)

1 kg/1,000 kkg (pounds per million pounds) of metal poured.
2 These concentrations must be multiplied by the ratio of (21.8/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.
3 Within the range of 7.0 to 10.0 at all times.

(2) Applicable to plants that are casting primarily steel and to plants that are casting primarily malleable iron where equal to or less than 3,557 tons of metal are poured per year.

NSPS

Maximum for any 1 day	Maximum fo monthly aver age
kg/1,000 kkg million poun poured	(pounds per ds) of metal
0.0527	0.029
0.144	0.070
0.267	0.102
5.46	1.82
6.91	2.73
(1)	(1)
	any 1 day kg/1,000 kkg million pour poured 0.0527 0.144 0.267 5.46 6.91

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual average
	(mg/l) ²	(mg/1) ²	
Copper (T)	0.29	0.16	0.0118
Lead (T)	0.79	0.39	0.04
Zinc (T)	1.47	0.56	0.0728
Oil and grease	30	10	0.909
TSS	38	15	1.82
pH	(3)	(3)	(3)

1 kg/1000 kkg (pounds per million pounds) of metal poured.
2 These concentrations must be multiplied by the ratio of (21.8/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

¹ kg/1,000 kkg (pounds per million) pounds of metal poured.
² These concentrations must be multiplied by the ratio of (17.7/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.
³ Within the range of 7.0 to 10.0 at all times.

¹kg/1,000 kkg (pounds per million) pounds of metal poured.
 ²These concentrations must be multiplied by the ratio of (17.7/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.
 ³Within the range of 7.0 to 10.0 at all times.

³ Within the range of 7.0 to 10.0 at all times.

(i) Wet Sand Reclamation Operations. (1) Applicable to plants that are casting primarily ductile or gray iron and to plants that are casting primarily malleable iron where greater than 3,557 tons of metal are poured per year.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (p lion pounds) claimed	ounds per mil- of sand re-
0 (T)	0.047	0.40
Copper (T)	0.217	0.12
Lead (T)	0.396	0.194
Zinc (T)	0.732	0.276
Total phenols	0.642	0.224
Oil and grease	22.4	7.47
TSS	11.2	8.96
pH	(1)	(1)

¹ Within the range of 7.0 to 10.0 at all times.

Maximum for any 1 day	Maximum for monthly average	Annual aver- age ¹
(mg/l) ²	(mg/l) ²	
0.29	0.16	0.0485
0.53	0.26	0.112
0.98	0.37	0.194
0.86	0.3	0.149
30	10	3.73
15	12	1.94
(3)	(3)	(3)
	(mg/l) ² 0.29 0.53 0.98 0.86 30	for any 1 for monthly average (mg/l) ² (mg/l) ² 0.29 0.16 0.53 0.26 0.98 0.37 0.86 0.3 30 10 15 12

(2) Applicable to plants that are casting primarily steel and to plants that are casting primarily malleable iron where equal to or less than 3,557 tons of metal are poured per year.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (p lion pounds) claimed	ounds per mil- of sand re-
Copper (T)	0.217	0.12
Copper (T)	0.217	0.12
Lead (T)	0.59	0.291
Zinc (T)	1.1	0.418
Total phenols	0.642	0.224
Oil and grease	22.4	7.47
TSS	28.4	11.2
pH	(¹)	(1)

¹ Within the range of 7.0 to at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age ¹
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.29	0.16	0.0485
Lead (T)	0.79	0.39	0.164
Zinc (T)	1.47	0.56	0.299
Total phenols	0.86	0.3	0.149
Oil and grease	30	10	3.73
TSS	38	15	7.47
pH	(3)	(3)	(3)

¹ kg/1,000 kkg (pounds per million pounds) of sand reclaimed.

[50 FR 45247, Oct. 30, 1985; 51 FR 21761, June 16, 1986]

§464.35 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR part 403 and achieve the following pretreatment standards for existing sources.

(a) Casting Cleaning Operations. (1) Applicable to plants that are casting primarily ductile iron, to plants that are casting primarily malleable iron where greater than 3,557 tons of metal are poured per year, and to plants that are casting primarily gray iron where greater than 1,784 tons of metal are poured per year.

¹ kg/1,000 kkg (pounds per million pounds) of sand reclaimed.

2 These concentrations must be multiplied by the ratio of (89.5/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of sand reclaimed) for a specific plant.

3 Within the range of 7.0 to 10.0 at all times.

²These concentrations must be multiplied by the ratio of (89.5/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of sand reclaimed) for a specific plant.

³Within the range of 7.0 to 10.0 at all times.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T) Lead (T) Zinc (T)	0.0129 0.0237 0.0437	0.0071 0.0116 0.0165

(2) Applicable to plants that are casting primarily steel, to plants that are casting primarily malleable iron where equal to or less than 3,557 tons of metal are poured per year, and to plants that are casting primarily gray iron where equal to or less than 1,784 tons of metal are poured per year.

PSES

Pollutant or pollutant property	Maximum for any 1 day Maximum for monthly ave age	
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0129 0.0353 0.0656	0.0071 0.0174 0.025

(b) Casting Quench Operations. (1) Applicable to plants that are casting primarily ductile iron, to plants that are casting primarily malleable iron where greater than 3,557 tons of metal are poured per year, and to plants that are casting primarily gray iron where greater than 1,784 tons of metal are poured per year.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg million poun poured	(pounds per ds) of metal
Copper (T)	0.0138 0.0252 0.0466 0.0257	0.0076 0.0124 0.0176 0.00838

(2) Applicable to plants that are casting primarily steel, to plants that are casting primarily malleable iron where equal to or less than 3,557 tons of metal are poured per year, and to plants that are casting primarily gray iron where equal to or less than 1,784 tons of metal are poured per year.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg million poun poured	(pounds per ds) of metal
Copper (T)	0.0138 0.0376 0.0699 0.0257	0.0076 0.0185 0.0266 0.00838
Oil and grease (for alternate monitoring)	1.43	0.476

(c) Dust Collection Scrubber Operations. (1) Applicable to plants that are casting primarily ductile iron, to plants that are casting primarily malleable iron where greater than 3,557 tons of metal are poured per year, and to plants that are casting primarily gray iron where greater than 1,784 tons of metal are poured per year.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/62.3 million per billion scrubbed	Sm³ (pounds SCF) of air
Copper (T)	0.218 0.398 0.736 0.646 2.04	0.12 0.195 0.278 0.225 0.664
nate monitoring)	22.5	7.51

(2) Applicable to plants that are casting primarily steel, to plants that are casting primarily malleable iron where equal to or less than 3,557 tons of metal are poured per year, and to plants that are casting primarily gray iron where equal to or less than 1,784 tons of metal are poured per year.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/62.3 million per billion scrubbed	Sm³ (pounds SCF) of air
Copper (T)	0.218 0.593 1.1 0.656 2.04	0.12 0.293 0.421 0.225 0.664
nate monitoring)	22.5	7.51

- (d) Grinding Scrubber Operations. No discharge of process wastewater pollutants to a POTW.
- (e) *Investment Casting*. (1) Applicable to plants that are casting primarily ductile iron, to plants that are casting primarily malleable iron where greater than 3,557 tons of metal are poured per year, and to plants that are casting primarily gray iron where greater than 1,784 tons of metal are poured per year.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (p lion pounds) of	
Copper (T)	3.19 5.84 10.8 13.2	1.76 2.86 4.07 4.3
nate monitoring)	330	110

(2) Applicable to plants that are casting primarily steel, to plants that are casting primarily malleable iron where equal to or less than 3,557 tons of metal are poured per year, and to plants that are casting primarily gray iron where equal to or less than 1,784 tons of metal are poured per year.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (p lion pounds) of	
Copper (T)	3.19 8.7 16.2 13.2	1.76 4.3 6.17 4.3

(f) Melting Furnace Scrubber Operations. (1) Applicable to plants that are casting primarily ductile iron, to plants that are casting primarily malleable iron where greater than 3,557 tons of metal are poured per year, and to plants that are casting primarily gray iron where greater than 1,784 tons of metal are poured per year.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/62.3 million per billion scrubbed	Sm³ (pounds SCF) of air
Copper (T)	1.02 1.86 3.44 3.01 8.34	0.561 0.911 1.30 1.05 2.73
nate monitoring)	105	35

(2) Applicable to plants that are casting primarily steel, to plants that are casting primarily malleable iron where equal to or less than 3,557 tons of metal are poured per year, and to plants that are casting primarily gray iron where equal to or less than 1,784 tons of metal are poured per year.

PSES

Reflictant or pollutant property any 1 day monthly ave age kg/62.3 million Sm³ (pound per billion SCF) of air scrubbed			
Per billion scrubbed SCF) of ai scrubbed SCF) of ai scrubbed Copper (T)			Maximum for monthly average
Lead (T) 2.77 1.37 Zinc (T) 5.15 1.96 Total phenols 3.01 1.05 TTO 8.34 2.73 Oil and grease (for alter-		per billion	
nate monitoring) 105 35	Lead (T)	2.77 5.15 3.01 8.34	1.96 1.05 2.73
	nate monitoring)	105	35

(g) Mold Cooling Operations. (1) Applicable to plants that are casting primarily ductile iron, to plants that are casting primarily malleable iron where greater than 3,557 tons of metal are poured per year, and to plants that are casting primarily gray iron where greater than 1,784 tons of metal are poured per year.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg million pour poured	(pounds per ids) of metal
Copper (T)	0.0428 0.0783 0.145 0.0797	0.0236 0.0384 0.0546 0.026
monitoring)	4.43	1.48

(2) Applicable to plants that are casting primarily steel, to plants that are casting primarily malleable iron where greater than 3,557 tons of metal are poured per year, and to plants that are casting primarily gray iron where equal to or less than 1,784 tons of metal are poured per year.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg million poun poured	(pounds per ids) of metal
Copper (T)	0.0428	0.0236
Lead (T)	0.117	0.0576
Zinc (T)	0.217	0.0827
TTO	0.0797	0.026
Oil and grease (for alternate		
monitoring)	4.43	1.48

(h) Slag Quench Operations. (1) Applicable to plants that are casting primarily ductile iron, to plants that are casting primarily malleable iron where greater than 3,557 tons of metal are poured per year, and to plants that are casting primarily gray iron where greater than 1,784 tons of metal are poured per year.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (pounds per million pounds) of meta poured	
Copper (T) Lead (T)	0.0527 0.0964	0.0291 0.0473
Zinc (T)	0.178	0.0673
TTO	0.0257	0.00838
Oil and grease (for alternate monitoring)	5.46	1.82

(2) Applicable to plants that are casting primarily steel, to plants that are casting primarily malleable iron where equal to or less than 3,557 tons of metal are poured per year, and to plants that are casting primarily gray iron where equal to or less than 1,784 tons of metal are poured per year.

PSES

Pollutant or pollutant property	Maximum for	Maximum for monthly aver-
	any 1 day	age
	kg/1,000 kkg million poun poured	(pounds per ds) of metal
Copper (T)	0.0527	0.0291
Lead (T)	0.144	0.0709
Zinc (T)	0.267	0.102
TTO	0.0257	0.00838
Oil and grease (for alternate		
monitoring)	5.46	1.82

(i) West Sand Reclamation Operations. (1) Applicable to plants that are casting primarily ductile iron, to plants that are casting primarily malleable iron where greater than 3,557 tons of metal are poured per year, and to plants that are casting gray iron where greater than 1,784 tons of metal are poured per year.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (p lion pounds) claimed	ounds per mil- of sand re-
Copper (T)	0.217 0.396 0.732 0.642 1.18	0.12 0.194 0.276 0.224 0.386
nate monitoring)	22.4	7.47

(2) Applicable to plants that are casting primarily steel, to plants that are casting primarily malleable iron where equal to or less than 3,557 tons of metal are poured per year, and to plants that are casting primarily gray iron where equal to or less than 1,784 tons of metal are poured per year.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (p lion pounds) claimed	ounds per mil- of sand re-
Copper (T)	0.217 0.59 1.1 0.642 1.18	0.12 0.291 0.418 0.224 0.386
nate monitoring)	22.4	7.47

[50 FR 45247, Oct. 30, 1985; 51 FR 21762, June 16, 1986]

§ 464.36 Pretreatment standards for new sources.

Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduces pollutants into publicly owned treatment works must comply with 40 CFR part 403 and achieve the following pretreatment standards for new sources.

(a) Casting Cleaning Operations. (1) Applicable to plants that are casting primarily ductile iron, to plants that are casting primarily malleable iron where greater than 3,557 tons of metal are poured per year, and to plants that are casting primarily gray iron where greater than 1,784 tons of metal are poured per year.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg million poun poured	(pounds per ds) of metal
Copper (T)	0.0129 0.0237 0.0437	0.0071 0.0116 0.0165

(2) Applicable to plants that are casting primarily steel, to plants that are casting primarily malleable iron where equal to or less than 3,557 tons of metal are poured per year, and to plants that are casting primarily gray iron where equal to or less than 1,784 tons of metal are poured per year.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg million poun poured	(pounds per ds) of metal
Copper (T)	0.0129 0.0353 0.0656	0.0071 0.0174 0.025

(b) Casting Quench Operations. (1) Applicable to plants that are casting primarily ductile iron, to plants that are casting primarily malleable iron where greater than 3,557 tons of metal are poured per year, and to plants that are casting primarily gray iron where greater than 1,784 tons of metal are poured per year.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0138 0.0252 0.0466 0.0257	0.0076 0.0124 0.0176 0.00838
nate monitoring)	1.43	0.476

(2) Applicable to plants that are casting primarily steel, to plants that are casting primarily malleable iron where equal to or less than 3,557 tons of metal are poured per year, and to plants that are casting primarily gray iron where equal to or less than 1,784 tons of metal are poured per year.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg million poun poured	(pounds per ds) of metal
Copper (T)	0.0138 0.0376 0.0699 0.0257	0.0076 0.0185 0.0266 0.00838

(c) Dust Collection Scrubber Operations. (1) Applicable to plants that are casting primarily ductile iron, to plants that are casting primarily malleable iron where greater than 3,557 tons of metal are poured per year, and to plants that are casting primarily gray iron where greater than 1,784 tons of metal are poured per year.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/62.3 million per billion scrubbed	Sm³ (pounds SCF) of air
Copper (T) Lead (T) Zinc (T) Total Phenols TTO Oil and Grease (for alter-	0.218 0.398 0.736 0.646 2.04	0.12 0.195 0.278 0.225 0.664
nate monitoring)	22.5	7.51

(2) Applicable to plants that are casting primarily steel, to plants that are casting primarily malleable iron where equal to or less than 3,557

tons of metal are poured per year, and to plants that are casting primarily gray iron where equal to or less than 1,784 tons of metal are poured per year.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/62.3 million per billion scrubbed	Sm³ (pounds SCF) of air
Copper (T)	0.218 0.593 1.1 0.656 2.04	0.12 0.293 0.421 0.225 0.664
nate monitoring)	22.5	7.51

- (d) Grinding Scrubber Operations. No discharge of process wastewater pollutants to a POTW.
- (e) *Investment Casting*. (1) Applicable to plants that are casting primarily ductile iron, to plants that are casting primarily malleable iron where greater than 3,557 tons of metal are poured per year, and to plants that are casting primarily gray iron where greater than 1,784 tons of metal are poured per year.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (p lion pounds) of	
Copper (T)	3.19 5.84 10.8 13.2	1.76 2.86 4.07 4.3
Oil and Grease (for alter- nate monitoring)	330	110

(2) Applicable to plants that are casting primarily steel, to plants that are casting primarily malleable iron where equal to or less than 3,557 tons of metal are poured per year, and to plants that are casting primarily gray iron where equal to or less than 1,784 tons of metal are poured per year.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (p lion pounds) of	
Copper (T) Lead (T) Zinc (T) TTO Oil and Grease (for alternate monitoring)	3.19 8.7 16.2 13.2	1.76 4.3 6.17 4.3

(f) Melting Furnace Scrubber Operations. (1) Applicable to plants that are casting primarily ductile iron, to plants that are casting primarily malleable iron where greater than 3,557 tons of metal are poured per year, and to plants that are casting primarily gray iron where greater than 1,784 tons of metal are poured per year.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/62.3 million per billion scrubbed	Sm³ (pounds SCF) of air
Copper (T)	1.02 1.86 3.44 3.01 8.34	0.561 0.911 1.3 1.05 2.73
nate monitoring)	105	35

(2) Applicable to plants that are casting primarily steel, to plants that are casting primarily malleable iron where equal to or less than 3,557 tons of metal are poured per year, and to plants that are casting primarily gray iron where equal to or less than 1,784 tons of metal are poured per year.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/62.3 million per billion scrubbed	Sm³ (pounds SCF) of air
Copper (T)	1.02 2.77 5.15 3.01 8.34	0.561 1.37 1.96 1.05 2.73
nate monitoring)	105	35

(g) Mold Cooling Operations. (1) Applicable to plants that are casting primarily ductile iron, to

plants that are casting primarily malleable iron where greater than 3,557 tons of metal are poured per year, and to plants that are casting primarily gray iron where greater than 1,784 tons of metal are poured per year.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg million poun poured	(pounds per ds) of metal
Copper (T)	0.0428 0.0783 0.145 0.0797	0.0236 0.0384 0.0546 0.026
Oil and Grease (for alternate monitoring)	4.43	1.48

(2) Applicable to plants that are casting primarily steel, to plants that are casting primarily malleable iron where equal to or less than 3,557 tons of metal are poured per year, and to plants that are casting primarily gray iron where equal to or less than 1,784 tons of metal are poured per year.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg million poun poured	(pounds per ds) of metal
Copper (T)	0.0428	0.0236
Lead (T)	0.117	0.0576
Zinc (T)	0.217	0.0827
TTO	0.0797	0.026
Oil and Grease (for alternate monitoring)	4.43	1.48

(h) Slag Quench Operations. (1) Applicable to plants that are casting primarily ductile iron, to plants that are casting primarily malleable iron where greater than 3,557 tons of metal are poured per year, and to plants that are casting primarily gray iron where greater than 1,784 tons of metal are poured per year.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg million poun poured	(pounds per ds) of metal
Copper (T) Lead (T) Zinc (T) TTO Oil and grease (for alternate	0.0527 0.0964 0.178 0.0257	0.0291 0.0473 0.0673 0.00838
monitoring)	5.46	1.82

(2) Applicable to plants that are casting primarily steel, to plants that are casting primarily malleable iron where equal to or less than 3,557 tons of metal are poured per year, and to plants that are casting primarily gray iron where equal to or less than 1,784 tons of metal are poured per year.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg million poun poured	(pounds per ds) of metal
Copper (T)	0.0527 0.144 0.267 0.0257	0.0291 0.0709 0.102 0.00838
monitoring)	5.46	1.82

(i) Wet Sand Reclamation Operations. (1) Applicable to plants that are casting primarily ductile iron, to plants that are casting primarily malleable iron where greater than 3,557 tons of metal are poured per year, and to plants that are casting primarily gray iron where greater than 1,784 tons of metal are poured per year.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (p lion pounds) claimed	ounds per mil- of sand re-
Copper (T) Lead (T) Zinc (T) Total phenols TTO Oil and grease (for alter-	0.217 0.396 0.732 0.642 1.18	0.12 0.194 0.276 0.224 0.386
nate monitoring)	22.4	7.47

(2) Applicable to plants that are casting primarily steel, to plants that are casting primarily

malleable iron where equal to or less than 3,557 tons of metal are poured per year, and to plants that are casting primarily gray iron where equal to or less than 1,784 tons of metal are poured per year.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (p lion pounds) claimed	ounds per mil- of sand re-
Copper (T)	0.217 0.59 1.10 0.642 1.18	0.12 0.291 0.418 0.224 0.386
nate monitoring)	22.4	7.47

§464.37 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology. [Reserved]

Subpart D—Zinc Casting Subcategory

§464.40 Applicability; description of the zinc casting subcategory.

The provisions of this subpart are applicable to discharges to waters of the United States and to the introduction of pollutants into publicly owned treatment works resulting from zinc casting operations as defined in § 464.02(d).

§464.41 Specialized definitions.

For the purpose of this subpart:

(a) Total Toxic Organics (TTO). TTO is a regulated parameter under PSES (§ 464.45) and PSNS (§ 464.46) for the zinc subcategory and is comprised of a discrete list of toxic organic pollutants for each process segment where it is regulated, as follows:

- Casting (1) Quench (§ 464.45(a) § 464.46(a)):
- 21. 2,4,6-trichlorophenol
- 22. para-chloro meta-cresol
- 31. 2,4-dichlorophenol
- 34. 2,4-dimethylphenol
- 39. fluoranthene
- 44. methylene chloride (dichloromethane)
- 65. phenol
- 66. bis(2-ethylhexyl) phthalate
- 70. diethyl phthalate 85. tetrachloroethylene
- 68. di-n-butyl phthalate

- (2) Die Casting (§ 465.45(b) and § 464.46(b)):
- 1. acenaphthene
- 21. 2,4,6-trichlorophenol
- 22. para-chloro meta-cresol
- 24. 2-chlorophenol 34. 2.4-dimethylphenol
- 44. methylene chloride (dichloromethane)
- 55. naphthalene 65. phenol
- 66. bis (2-ethylhexyl) phthalate
- 68. di-n-butyl phthalate
- 70. diethyl phthalate
- 85. tetrachloroethylene 86. toluene
- 87. trichloroethylene
- (3) Melting Furnace Scrubber (§ 464.45(c) and § 464.46(c)):
- 31. 2,4-dichlorophenol
- 34. 2,4-dimethylphenol
- 39. fluoranthene
- 44. methylene chloride (dichloromethane)
- 55. naphthalene
- 65. phenol
- 66. bis(2-ethylhexyl) phthalate
- 68. di-n-butyl phthalate 85. tetrachloroethylene
- 86. toluene
- 87. trichloroethylene
 - (4) Mold Cooling (§ 464.45(d) and § 464.46(d)):
- 21. 2,4,6-trichlorophenol
- 22. para-chloro meta-cresol
- 31. 2,4-dichlorophenol
- 34. 2,4-dimethylphenol 39. fluoranthene
- 44. methylene chloride (dichloromethane)
- 65. phenol
- 66. bis(2-ethylhexyl) phthalate
- 68. di-n-butyl phthalate
- 70. diethyl phthalate
- 85. tetrachloroethylene

[50 FR 45247, Oct. 30, 1985; 51 FR 21762, June 16, 1986]

§ 464.42 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available, except that non-continuous dischargers shall not be subject to the maximum day and maximum for monthly average mass (kg/1,000 kkg or lb/million lb of metal poured; kg/62.3 million Sm3 or lb/billion SCF of air scrubbed) effluent limitations for copper, lead, zinc, total phenols, oil and grease, and TSS. For non-continuous dischargers, annual average mass limitations and maximum day and maximum for monthly average concentration (mg/1) limitations shall apply. Concentration limitations and annual average mass limitations shall only apply to noncontinuous dischargers.

(a) Casting Quench Operations.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum fo monthly aver age	
	kg/1,000 kkg (pounds pe million pounds) of met poured		
Copper (T)	0.0344 0.0353 0.0509 1.34 1.7	0.0187 0.0174 0.0192 0.446 0.67	

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age 1
Copper (T)	(mg/1) ² 0.77 0.79	(mg/1) ² 0.42 0.39	0.0076 0.0098
Zinc (T)	1.14	0.43	0.0121
Oil and grease	30	10	0.223
TSS	38	15	0.446
	(³)	(³)	(³)

¹kg/1000 kkg (pound per million pounds) of metal poured.
 ²These concentrations must be multiplied by the ratio of (5.35/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.
 ³Within the range of 7.0 to 10.0 at all times.

(b) Die Casting Operations.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum fo monthly aver age	
	kg/1,000 kkg (pounds pr million pounds) of met poured		
Copper (T)	0.0066 0.0068 0.0098 0.0074 0.259 0.328	0.0036 0.0034 0.0037 0.0026 0.0864 0.13	

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual average 1
	(mg/ l) ²	(mg/ l) ²	
Copper (T)	0.77	0.42	0.0015
Lead (T)	0.79	0.39	0.0019
Zinc (T)	1.14	0.43	0.0023
Total phenols	0.86	0.3	0.0017
Oil and grease	30	10	0.0432
TSS	38	15	0.0864
pH	(3)	(3)	(3)

¹ kg/1000 kkg (pound per million pounds) of metal poured.
² These concentrations must be multiplied by the ratio of (1.04/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.
³ Within the range of 7.0 to 10.0 at all times.

(c) Melting Furnace Scrubber Operations.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/62.3 millions Sm (pounds per billion SC of air scrubbed	
Copper (T)	1.56 1.6 2.31 1.74 60.8 77.1	0.852 0.791 0.872 0.608 20.3 30.4
pH	(1)	(1)

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual average 1
	(mg/ l) ²	(mg/ l) ²	
Copper (T)	0.77	0.42	0.345
Lead (T)	0.79	0.39	0.446
Zinc (T)	1.14	0.43	0.548
Total Phenols	0.86	0.3	0.406
Oil and grease	30	10	10.1
TSS	38	15	20.3
pH	(3)	(3)	(3)

(d) Mold Cooling Operations.

¹ kg/62.3 million Sm³ (pounds per billion SCF) of air scrubbed.

2 These concentrations must be multiplied by the ratio of (0.243/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 SCF of air scrubbed for a specific plant.

3 Within the range of 7.0 to 10.0 at all times.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day Maximum monthly av	
	kg/1,000 kkg (pounds pe million pounds) of meta poured	
Copper (T)	0.304	0.166
Lead (T)	0.311	0.154
Zinc (T)	0.449	0.17
Oil and grease	11.8	3.94
TSS	15	5.91
pH	(1)	(1)

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age 1
	(mg/	(mg/	
Copper (T) Lead (T)	0.77 0.79	0.42 0.39	0.067 0.0867
Zinc (T)	1.14	0.43	0.106
Oil and grease	30	10	1.97
TSS	38	15	3.94
pH	(3)	(3)	(3)

¹kg/1,000 kkg (pounds per million pounds) of metal poured.
²These concentrations must be multiplied by the ratio of (47.3/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.
³Within the range of 7.0 to 10.0 at all times.

[50 FR 45247, Oct. 30, 1985; 51 FR 21762, June 16, 1986]

§ 464.43 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable, except that non-continuous dischargers shall not be subject to the maximum day and maximum for monthly average mass (kg/1,000 kkg or lb/million lb of metal poured; kg/62.3 million Sm3 or lb/billion SCF of air scrubbed) effluent limitations for copper, lead, zinc, and total phenols. For non-continuous dischargers, annual average mass limitations and maximum day and maximum for monthly average concentration (mg/1) limitations shall apply. Concentration limitations and annual average mass limitations shall only apply to non-continuous dischargers.

(a) Casting Quench Operations.

BAT EFFLUENT LIMITATIONS

	Maximum for	Maximum for	
Pollutant or pollutant property	any 1 day	monthly aver- age	
	kg/1,000 kkg (pounds per million pounds) of met- poured		
Copper (T)	0.0344	0.0187	
Lead (T)	0.0237	0.0116	
Zinc (T)	0.0339	0.0129	

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age 1
	(mg/ l) ²	(mg/ I) ²	
Copper (T)	0.77	0.42	0.0076
Lead (T)	0.53	0.26	0.0067
Zinc (T)	0.76	0.29	0.008

¹ kg/1,000 kkg (pounds per million pounds) of metal poured. ²These concentrations must be multiplied by the ratio of (5.34/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(b) Die Casting Operations.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day Maximum monthly age	
	kg/1,000 kkg (pounds p million pounds) of me poured	
Copper (T)	0.0066	0.0036
Lead (T)	0.0046	0.0022
Zinc (T)	0.0066	0.0025
Total phenols	0.0074	0.0026

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age 1
	(mg/ l) ²	(mg/	
Copper (T)	0.77	0.42	0.0015
Lead (T)	0.53	0.26	0.0013
Zinc (T)	0.76	0.29	0.0016
Total phenols	0.86	0.3	0.0017

¹ kg/1,000 kkg (pounds per million pounds) of metal poured. ²These concentrations must be multiplied by the ratio of (1.04/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

(c) Melting Furnace Scrubber Operations.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/62.3 million per billion scrubbed	Sm³ (pounds SCF) of air
Copper (T)	1.56 1.07 1.54 1.74	0.852 0.527 0.588 0.608

	Maximum for any 1 day	Maximum for monthly average	Annual average 1
Copper (T) Lead (T) Zinc (T)	(mg/ l) ² 0.77 0.53 0.76	(mg/ I) ² 0.42 0.26 0.29	0.345 0.304 0.365
Total phenols	0.86	0.3	0.406

(d) Mold Cooling Operations.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average	
	kg/1,000 kkg (pounds per million pounds) of meta poured		
Copper (T) Lead (T) Zinc (T)	0.304 0.209 0.3	0.166 0.103 0.114	

	Maximum for any 1 day	Maximum for monthly average	Annual av- erage ¹
Copper (T) Lead (T) Zinc (T)	(mg/l) ² 0.77 0.53 0.76	(mg/l) ² 0.42 0.26 0.29	0.067 0.0591 0.071

¹ kg/1,000 kkg (pounds per million pounds) of metal poured.

² These concentrations must be multiplied by the ratio of (47.3/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

[50 FR 45247, Oct. 30, 1985; 51 FR 21762, June 16, 1986]

§464.44 New source performance standards.

Any new source subject to this subpart must achieve the following new source performance standards (NSPS), except that non-continuous dischargers shall not be subject to the maximum day and maximum for monthly average mass (kg/1,000

kkg or lb/million lb of metal poured; kg/62.3 million Sm3 or lb/billion SCF of air scrubbed) effluent standards for copper, lead, zinc, total phenols, oil and grease, and TSS. For non-continuous dischargers, annual average mass standards and maximum day and maximum for monthly average concentration (mg/l) standards shall apply. Concentration standards and annual average mass standards shall only apply to non-continuous dischargers.

(a) Casting Quench Operations.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg million poun poured	(pounds per ds) of metal
Copper (T)	0.0344	0.0187
Lead (T)	0.0237	0.0116
Zinc (T)	0.0339	0.0129
Oil and grease	1.34	0.446
TSS	0.67	0.536
pH	(1)	(¹)

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly aver- age	Annual aver- age ¹
	(mg/l) ²	(mg/l) ²	
Copper	\ \ \ \ /	,	
(T)	0.77	0.42	0.0076
Lead (T)	0.53	0.26	0.0067
Zinc (T)	0.76	0.29	0.008
Oil and			
grease	30	10	0.223
TSS	15	12	0.116
pH	(3)	(3)	(3)

¹ kg/1,000 kkg (pounds per million pounds) of metal poured.
² These concentrations must be multiplied by the ratio of (5.34/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.
³ Within the range of 7.0 to 10.0 at all times.

NSPS

(b) Die Casting Operations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg million poun poured	(pounds per ds) of metal
Copper (T)	0.0066 0.0046 0.0066 0.0074 0.259 0.13	0.0036 0.0022 0.0025 0.0026 0.0864 0.104
pH	(1)	(1)

¹ Within the range of 7.0 to 10.0 at all times.

¹kg/62.3 million Sm³ (pounds per billion SCF) of air scrubbed.
²These concentrations must be multiplied by the ratio of (0.243/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

	Maximum for any 1 day	Maximum for monthly average	Annual aver- age ¹
	(mg/l) ²	(mg/l) ²	
Copper		` • ′	
(T)	0.77	0.42	0.0015
Lead (T)	0.53	0.26	0.0013
Zinc (T)	0.76	0.29	0.0016
Total	0.00	0.3	0.0047
phenols	0.86	0.3	0.0017
Oil and	20	10	0.0422
grease	30		0.0432
TSS	15	12	0.0225
pH	(3)	(3)	(3)

¹kg/1,000 kkg (pounds per million pounds) of metal poured.
²These concentrations must be multiplied by the ratio of (1.04/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.

³Within the range of 7.0 to 10.0 at all times.

(c) Melting Furnace Scrubber Operations.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/62.3 million per billion scrubbed	Sm³ (pounds SCF) of air
_		
Copper (T)	1.56	0.852
Lead (T)	1.07	0.527
Zinc (T)	1.54	0.588
Total phenols	1.74	0.608
Oil and grease	60.8	20.3
TSS	30.4	24.3
pH	(1)	(1)

¹ Within the range of 7.0 to 10.0 at all times.

-		
Maximum for any 1 day	Maximum for monthly average	Annual aver- age ¹
(mg/l) ²	(mg/l) ²	
0.77	0.42	0.345
0.53	0.26	0.304
0.76	0.29	0.365
0.86	0.3	0.406
30	10	10.1
15	12	5.27
(3)	(3)	(3)
	for any 1 day (mg/l) ² 0.77 0.53 0.76 0.86 30 15	for any 1 monthly average (mg/l) ² (mg/l) ² 0.77 0.42 0.53 0.26 0.76 0.29 0.86 0.3 30 10 15 12

(d) Mold Cooling Operations.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly aver- age
	kg/1,000 kkg (p lion pounds) of	
Conner (T)	0.304	0.100
Copper (T)	0.304	0.166
Lead (T)	0.209	0.103
Zinc (T)	0.3	0.114
Oil and grease	11.8	3.94
TSS	5.91	4.73
pH	(¹)	(1)

¹ Within the range of 7.0 to 10.0 at all times.

	Maximum for any 1 day	Maximum for monthly aver- age	Annual av- erage 1
	(mg/l) ²	(mg/l) ²	
Copper (T)	0.77	0.42	0.067
Lead (T)	0.53	0.26	0.0591
Zinc (T)	0.76	0.29	0.071
Oil and			
grease	30	10	1.97
TSS	15	12	1.03
pH	(3)	(3)	(3)

¹kg/1,000 kkg (pounds per million pounds) of metal poured.
² These concentrations must be multiplied by the ratio of (47.3/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 pounds of metal poured) for a specific plant.
³ Within the range of 7.0 to 10.0 at all times.

[50 FR 45247, Oct. 30, 1985; 51 FR 21762, June 16, 1986]

§464.45 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR part 403 and achieve the following pretreatment standards for existing sources.

(a) Casting Quench Operations.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T) Lead (T) Zinc (T) TTO Oil and grease (for alternate	0.0344 0.0237 0.0339 0.093	0.0187 0.0116 0.0129 0.0304
monitoring)	1.34	0.446

(b) Die Casting Operations.

¹ kg/62.3 million Sm³ (pounds per billion SCF) of air scrubbed.

2 These concentrations must be multiplied by the ratio of (0.243/x) where x is the actual normalized process wastewater flow (in gallons per 1,000 SCF of air scrubbed) for a specific plant.

3 Within the range of 7.0 to 10.0 at all times.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (pounds per million pounds of metal poured)	
Copper (T) Lead (T) Zinc (T) Total phenols TTO	0.0066 0.0046 0.0066 0.0074 0.0196	0.0036 0.0022 0.0025 0.0026 0.0064
Oil and grease for alternate monitoring)	0.259	0.0864

(c) Melting Furnace Scrubber Operations.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly aver- age
	kg/62.3 million per billion scrubbed	Sm³ (pounds SCF) of air
Copper (T)	1.56 1.07 1.54 1.74 3.95	0.852 0.527 0.588 0.608 1.29
Oil and grease for alternate monitoring)	60.8	20.3

(d) Mold Cooling Operations.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.304 0.209 0.3 0.821	0.166 0.103 0.114 0.268
Oil and grease for alternate monitoring)	11.8	3.94

§ 464.46 Pretreatment standards for new sources.

Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduces pollutants into publicly owned treatment works must comply with 40 CFR part 403 and achieve the following pretreatment standards for new sources.

(a) Casting Quench Operations.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg (pounds per million pounds) of metal poured	
Copper (T)	0.0344	0.0187
Lead (T)	0.0237	0.0116
Zinc (T)	0.0339	0.0129
TTO	0.093	0.0304
Oil and grease (for alternate		
monitoring)	1.34	0.446

(b) Die Casting Operations.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg million pound poured	
Copper (T)	0.0066 0.0046 0.0066 0.0074 0.0196	0.0036 0.0022 0.0025 0.0026 0.0064
monitoring)	0.259	0.0864

(c) Melting Furnace Scrubber Operations.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/62.3 million per billion scrubbed	Sm³ (pounds SCF) of air
Copper (T)	1.56 1.07 1.54 1.74 3.95	0.852 0.527 0.588 0.608 1.29
monitoring)	60.8	20.3

(d) Mold Cooling Operations.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	kg/1,000 kkg million poun poured	(pounds per ds) of metal
Copper (T) Lead (T) Zinc (T) TTO Oil and grease (for alternate	0.304 0.209 0.3 0.821	0.166 0.103 0.114 0.268
monitoring)	11.8	3.94

 $[50\ FR\ 45247,\ Oct.\ 30,\ 1985;\ 51\ FR\ 21762,\ June\ 16,\\ 1986]$

§ 464.47 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology. [Reserved]